

## SEQUENZPROTOKOLL

&lt;110&gt; Biosyn Arzneimittel GmbH

&lt;120&gt; Nukleinsäuremolekül, umfassend eine für ein Hämocyanin kodierende Nukleinsäuresequenz

&lt;130&gt; PCT1153-01966

&lt;140&gt;

&lt;141&gt;

&lt;160&gt; 108

&lt;170&gt; PatentIn Ver. 2.1

&lt;210&gt; 1

&lt;211&gt; 1269

&lt;212&gt; DNA

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 1

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&lt;210&gt; 2

&lt;211&gt; 1257

&lt;212&gt; DNA

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 2

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2

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&lt;210&gt; 3

&lt;211&gt; 1242

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 3

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&lt;210&gt; 4

&lt;211&gt; 1239

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 4

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3

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&lt;210&gt; 5

&lt;211&gt; 1260

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 5

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gtcccgctga tgggtaccaa gccattgcct ctttccatgc cctgccacca ctctgtccca 180
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tagaatttga aggaccgggc gttcatacag agaggcacat aaatactgag cgcctgtttc 480
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&lt;210&gt; 6

&lt;211&gt; 1251

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 6

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aagatgcatt tacgggtgaga aatgtccagg aaagtctgtt caaaatgtca agttttggaa 480

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4

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&lt;210&gt; 7

&lt;211&gt; 1209

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 7

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&lt;210&gt; 8

&lt;211&gt; 1535

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 8

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5

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&lt;210&gt; 9

&lt;211&gt; 1003

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 9

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&lt;210&gt; 10

&lt;211&gt; 1251

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 10

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6

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&lt;210&gt; 11

&lt;211&gt; 1244

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 11

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gtcaccatca ggctgacgag tacgacgaag ttgtaactgc tgcaagccac atcagaaaga 60
atttaaaaga tctgtcaaag ggagaagtag agagcctaag gtctgccttc ctgcaacttc 120
agaacgacgg agtctatgag aatattgcc aagtccacgg caagcctggg ttgtgtgatg 180
ataacggctc caaggttgcc tgttgtgtcc atggaatgcc caccttcccc cagtggcaca 240
ggctctatgt cctccaggtg gagaatgctt tgctggagag aggatctgcc gtctctgtgc 300
catactggga ctggactgaa acatttacag agctgccatc tttgattgct gaggctacct 360
atttcaattc ccgtcaacaa acgtttgacc ctaatccttt cttcagaggt aaaatcagtt 420
ttgagaatgc tggtacaaca cgtgatcccc agcctgagct gtacgttaac aggtactact 480
accaaaacgt catgttggtt tttgaacagg acaactactg cgacttcgag atacagtttg 540
agatggttca caatgttctc catgcttggc ttggtggaag agctacttat tctatttctt 600
ctcttgatta ttctgcatc gaccctgtgt ttttccctca ccatgcgaac acagatagat 660
tgtggggccat ctggcaggag ctgcagaggt acaggaagaa gccatacaat gaagcggatt 720
gtgccattaa cctaattgcgc aaacctctac atcccttcga caacagtgat ctcaatcatg 780
atcctgtaac ctttaaatac tcaaaaccca ctgatggctt tgactaccag aacaactttg 840
gatacaagta tgacaacctt gagttcaatc atttcagtat tcccaggctt gaagaaatca 900
ttcgtattag acaacgtcaa gatcgtgtgt ttgcaggatt cctccttcac aacattggga 960
catccgcaac tgttgagata ttctgtctgt tccctaccac cagcggtgag caaaactgtg 1020
aaaacaaagc cggaacattt gccgtactcg gaggagaaac agagatggcg tttcattttg 1080
acagactcta caggtttgac atcagtgaac cactgaggga cctcggcata cagctggaca 1140
gccatgactt tgacctcagc atcaagattc aaggagtaaa tggatcctac cttgatccac 1200
acatcctgcc agagccatcc ttgatttttg tgccctggtc aagt 1244

```

&lt;210&gt; 12

&lt;211&gt; 1255

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 12

```

tctttcctgc gtccctgatg gcattcagat gacatccttg tgagaaaaga agtgaacagc 60
ctgacaacca gggagactgc atctctgatc catgctctga aaagtatgca ggaagaccat 120
tcacctgacg ggttccaagc cattgcctct tccatgctc tgccaccact ctgcccttca 180
ccatctgcag ctccaccgta tgcctgtgtg gtccacggca tggctacatt tcccagtg 240
cacagattgt aactgtaca gttccaggat gcatgagga gacatggagc tacggtaggt 300
gtaccgtatt gggattggct gcgaccgag tctcacctac cagagcttgt caccatggag 360
acataccatg atatttgag taacagagat ttccccaatc ctttctacca agccaatatt 420
gagtttgagc gagaaaacat tacaacagag agagaagtca ttgcagaca actttttgtc 480
aaaggtggac acgtttttga taaactgggt cttcaacaa gccatcctag gcctgagcag 540
gaaaactact gtgactttga gattcagttt gaaattcttc acaacggcgt tcacacgtgg 600

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7

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gtcggaggca gtcgtaccta ctctatcgga catcttcatt acgcattcta cgaccctctt 660
ttctaccttc accattttcca gacagaccgt atttgggcaa tctggcaaga actccaggaa 720
cagagagggc tctcgggtga tgaggctcac tgtgctctcg agcaaagag agaaccattg 780
aagcctttca gcttcggcgc tctttataac tggaaacagc tcacacagga tttctcccga 840
cccaggagca ccttcgacta caggaagttt ggttatgaat atgacaattt agaattcctg 900
ggaatgtcag ttgctgaact ggatcaatac attattgaac atcaagaaaa tgatagagta 960
ttcgctgggt tcctgttgag tggattcgga ggttccgcat cagttaattt ccaggtttgt 1020
agagctgatt ccacatgtca ggatgctggg tacttcaccg ttcttgggtg cagtgtgag 1080
atggcgtggg catttgacag gctttacaaa tatgacatta ctgaaactct ggagaaaaatg 1140
caccttcgat atgatgatga cttcacatc tctgtcagtc tgaccgcaa caacggaact 1200
gtcctgagca gcagtctaact cccaacaccg agtgtcatat tccagcgggg acatc 1255

```

&lt;210&gt; 13

&lt;211&gt; 1248

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 13

```

gtgacataaa taccaggagc atgtcaccca accgtgttcg ccgtgagctg agcgatctgt 60
ctgcgaggga cctgtctagt ctcaagtctg ctctgcgaga cctacaggag gatgatggcc 120
ccaacggata ccaggctctt gcagccttcc atgggctacc agcaggctgc catgatagcc 180
ggggaaatga gatcgcatgt tgcattcacg ggatgccgac cttccccag tggcacagac 240
tgtacaccct gcagttggag atggctctga ggagacatgg atcatctgtc gccatcccc 300
actgggactg gacaaagcct atctccgaac tcccctcgct cttcaccagc cctgagtatt 360
atgacccatg gcatgatgct gtggtaaaca acccattctc caaaggtttt gtcaaatttg 420
caaataccta cacagtaaga gaccacagg agatgctgtt ccagctttgt gaacatggag 480
agtcaatcct ctatgagcaa actcttcttg ctcttgagca aaccgactac tgtgattttg 540
aggtacagtt tgaggctctc cataacgtga tccactacct tgttgggtgga cgtcagacct 600
acgcattgtc ttctctgcat tatgcctcct acgacccatt cttctttata caccattcct 660
ttgtggataa gatgtgggta gtatggcaag ctcttcaaaa gaggaggaaa cttccataca 720
agcgagctga ctgtgctgtc aacctaataa ctaaaccatg gaggccattt gactccgata 780
tgaatcagaa cccattcaca aagatgcacg cagttcccaa cacactctat gactacgaga 840
cactgtacta cagctacgat aatctcgaaa taggtggcag gaatctcgac cagcttcagg 900
ctgaaattga ctgaaagcaga agccacgatc gcgtttttgc tggattcttg cttcgtggaa 960
tcggaacttc tgctgatgtc aggttttgga tttgtagaaa tgaaaatgac tgccacaggg 1020
gtggaataat tttcatctta ggtggagcca aggaaatgcc atgggtcattt gacagaaact 1080
tcaagtttga tatccccat gtactcgaga atgctggcat tagcccagag gacgtgtttg 1140
atgctgagga gccattttat atcaaggttg agatccatgc tgttaacaag accatgatac 1200
cgtcgtctgt gatcccagcc ccaactatca tctattctcc tggggaag 1248

```

&lt;210&gt; 14

&lt;211&gt; 1207

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 14

```

gtcgcgctgc tgacagtgcg cactctgcc aacattgctgg ctctgggggt aggaaggagc 60
tcacgacctc cactgtgtct gagaccgaga acctaaagaca ggctcttcaa ggtgtcatcg 120
atgatactgg tcccaatggt taccaagcaa tagcatcctt ccacggaagt ctccaatgt 180
gcgagatgaa cgcccgcaag gttgcctgtt gtgtcacagg tatggcctcc tccccacact 240
ggcacagact gtatgtgaag cagatggaag atgccctggc tgaccacggg tcacatatcg 300
gcatccctta ctgggactgg acaactgcct tcacagagtt acccgccctt gtcacagact 360
ccgagaacaa tcccttccat gagggctcgca ttgatcatct cgggtgaacc acgtcacgtt 420
ccccagaga catgctgttt aacgacccag agcaaggatc agagtctgtt ttctatagac 480
aagtctcctt ggctttggag cagactgact actgccagtt cgaagtccag tttgagctga 540
ccacaacgc cattactcc tggacaggtg gacgtagccc ttacggaatg tcgaccctcg 600
agttcacagc ctacgatcct ctcttctggc ttcaccactc caacaccgac agaattctggg 660

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## 8

```

ctgtctggca agcactgcag aaataccgag gactcccata caacgaagca cactgtgaaa 720
tccaggttct gaaacagccc ttgaggccat tcaacgatga catcaaccac aatccaatca 780
ccaagactaa tgccaggcct atcgattcat ttgattatga gaggtttaac tatcagtatg 840
acacccttag ctcccatggg aagagcatcc ctgaactgaa tgacctgctc gaggaaagaa 900
aaagagaaga gagaacattt gctgccttcc ttcttcgtgg aatcgggttg agtgctgatg 960
tcgtctttga catctgccgg cccaatgggt actgtgtctt tgcaggaacc tttgctgtgc 1020
tgggagggga gctagaaatg ccttggtcct tgcacagact gttccgctat gacatcacca 1080
gagtcattgaa tcagctccat ctccagtatg attcagattt cagtttcagg gtgaagcttg 1140
ttgccaccaa tggcactgag ctttcatcag accttctcaa gtcaccaaca attgaacatg 1200
aacttg      1207

```

&lt;210&gt; 15

&lt;211&gt; 1546

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 15

```

agccacaga ggaccagtgt aagaaacaga agtcactcgc caacatactg acggcaatgc 60
acactttcat gtaaggaag ttgattcgct gtccctggat gaagcaaaca acttgaagaa 120
tgccctttac aagctacaga acgaccacag tctaacggga tacgaagcaa tctctggtta 180
ccatggatag cccaatctgt gtccggaaga aggcgatgac aaaatacccc tgctgcgtcc 240
ccgatgggac atctttcctt actggcacag actcttgacc attcaactgg aaagagctct 300
tgagcacaat ggtgcactgc ttggtgttcc ttactgggac tggaaacaagg acctgtcgtc 360
actgccggcg ttcttctccg actccagcaa caacaatccc tacttcaagt accacatcgc 420
cgggtgttgt cacgacaccg tcagagagcc aactagtctt atatataacc agcccaaat 480
ccatggttat gattatctct attacctagc attgaccacg cttgaagaaa acaattactg 540
ggactttgag gttcagtatg agatcctcca caacgccgtc cactcctggc ttggaggatc 600
ccagaagtat tccatgtcta ccctggagta ttccggcctt gacctgtctt ttatgatcct 660
tactcgggtg cttagacagac tttggatcat ctggcaagaa cttcagaaga tcaggagaaa 720
gccctacaac ttcgctaaat gtgcttatca tatgatggaa gagccactgg cgcccttcag 780
ctatccatct atcaaccagg acgagttcac ccgtgccaac tccaagcctt ctacagtttt 840
tgacagccat aagttcggct accattacga taacctgaat gttagaggtc acagcatcca 900
agaactcaac acaatcatca atgacttgag aaacacagac agaattctac caggatttgt 960
ttgtttgagc atcggtagct ctgctagtgt caagatctat ctccgaacag atgacaatga 1020
cgaagaagtt ggaactttca ctgtcctggg aggagagagg gaaatgccat gggcctacga 1080
gcgagttttc aagtatgaca tcacagaggt tgcagataga cttaaaatta agttatggg 1140
acacccttta acttccggaa ctggagatca catccttacg aatggaatcg gtggtaaaca 1200
agagcctacc caaatccttt catcatctac agacctgcca atcatgacta cgatgttctt 1260
gttatcccag tanggaagaa accttcacat cctcccaaaa gttgtcgtca agaaaggcac 1320
ccgcatcgag ttccacccag tcgatgattc agttacgaga ccagttgttg atcttggag 1380
ctacactgca ctcttcaact gtgtggtacc accgttcaca taccacggat tcgaactgaa 1440
ccacgtctat tctgtcaagc ctggtgacta ctatgttact ggaccacga gagaccttg 1500
ccagaatgca gatgtcagga ttcatatcca tgttgaggat gagtaa      1546

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&lt;210&gt; 16

&lt;211&gt; 967

&lt;212&gt; DNA

<213> *Megathura crenulata*

&lt;400&gt; 16

```

ggcctaccgt actgggactg gactgaaccc atgacacaca ttccgggtct ggcaggaaac 60
aaaacttatg tggattctca tgggtcatcc cacacaaatc cttttcatag ttcagtgatt 120
gcatttgaag aaaatgctcc ccacacaaaa agacaaatag atcaaagact ctttaaacc 180
gctacctttg gacaccacac agacctgttc aaccagattt tgtatgcctt tgaacaagaa 240
gattactgtg actttgaagt ccaatttgag attaccata acacgattca cgcttggaag 300
ggaggaagcg aacatttctc aatgtcgtcc ctacattaca cagctttcga tcctttgttt 360
tactttcacc attctaacgt tgatcgtctt tgggccgttt ggcaagcctt acagatgaga 420

```



9

```

cggcataaac cctacagggc ccactgcgcc atatctctgg aacatatgca tctgaaacca 480
ttgcgctttt catctcccct taacaataac gaaaagactc atgccaatgc catgccaac 540
aagatctacg actatgaaaa tgtcctccat tacacatacg aagatttaac atttggaggc 600
atctctctgg aaaacataga aaagatgac cagcaaaacc agcaagaaga cagaatatat 660
gccggttttc tcctggctgg catacgctact tcagcaaagt ttgatatctt cattaanaact 720
accgattccg tgcaacataa ggctggaaca tttgcagtgc tcggtggaag caaggaaatg 780
aagtggggat ttgatcgcg tttcaagttt gacatcacgc acgttttgaa agatctcgat 840
ctcactgctg atggcgat t cgaagttact gttgacatca ctgaagtcga tggaaactaaa 900
cttgcatcca gtcttattcc acatgcttct gtcattcgtg agcatgcacg tggtaagctg 960
aatagag

```

&lt;210&gt; 17

&lt;211&gt; 1242

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 17

```

ttaaatttga caaagtgcc aaggatcgctc ttattcgaaa aaatgtagac cgtttgagcc 60
ccgaggagat gaatgaactt cgtaaagccc tagccttact gaaagaggac aaaagtgccg 120
gtggatttca gcagcttggg gcattccatg gggagccaaa atggtgtcct agtcccgaag 180
catctaaaaa atttgcctgc tgtgttcacg gcatgtctgt gttccctcac tggcatcgac 240
tggtgacggg tcagagtga aatgctttga gacgacatgg ctacgatgga gctttgccgt 300
actgggattg gacctctcct cttaatcacc ttcccgaaact ggcagatcat gagaagtacg 360
tcgacaaaac aacaacaaga agtggttcaga ataaactctt cgaacagcct gagtttggtc 420
attatacaag cattgccaaa caagtactgc tagcgttggg acaggacaat ttctgtgact 540
ttgaaatcca atatgagatt gcccataact acatccatgc acttgtagga ggcgctcagc 600
cttatgggtat ggcacgctt cgctacactg cttttgatcc actattctac ttgcatcact 660
ctaatacaga tcgtatatgg gcaatatggc aggcctttaca gaagtacaga ggaaaaccgt 720
acaacgttgc taactgtgct gttacatcga tgagagaacc tttgcaacca tttggcctct 780
ctgccaatat caacacagac catgtaacca aggagcattc agtgccattc aacgtttttg 840
attacaagac caatttcaat tatgaatatg acacttttga atttaacggt ctctcaatct 900
ctcagttgaa taaaaagctc gaagcgataa agagccaaga caggttcttt gatagcctcc 960
tgttatctgg tttcaagaaa tcatctcttg tttaattcaa tatttgacc gatagcagca 1020
actgtcaccc cgctggagag ttttaccttc tgggtgatga aaacgagatg ccatgggcat 1080
acgatagagt cttcaaatat gacataaccg aaaaactcca cgatctaaag ctgcatgcag 1140
aagaccactt ctacattgac tatgaagtat ttgaccttaa accagcaagc ctgggaaaaag 1200
at ttgttcaa gcagccttca gtcattcatg aaccaagaat ag

```

&lt;210&gt; 18

&lt;211&gt; 1236

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 18

```

gtcaccatga aggcgaagta tatcaagctg aagtaacttc tgccaaccgt attcgaaaaa 60
acattgaaaa tctgagcctt ggtgaactcg aaagtctgag agctgccttc ctggaaattg 120
aaaacgatgg aacttacgaa tcaatagcta aattccatgg tagccctggg ttgtgccagt 180
taaattggtaa ccccatctct tgtgtgtcc atggcatgcc aactttccct cactggcaca 240
gactgtacgt ggttgctggt gagaatgcc tctgaaaaa aggatcatct gtagctgttc 300
cctattggga ctggacaaa cgaatcgaac atttacctca cctgatttca gacgccactt 360
actacaattc caggcaacat cactatgaga caaaccatt ccatcatggc aaaatcacac 420
acgagaatga aatcactact agggatccca aggacagcct cttccattca gactactttt 480
acgagcaggt cttttacgcc ttggagcagg ataactctg tgatttcgag attcagttgg 540
agatattaca caatgcattg cattctttac ttggtggcaa aggtaaatat tccatgtcaa 600
accttgatta cgctgctttt gatcctgtgt tcttcttca tcacgcaacg actgacagaa 660
tctgggcaat ctggcaagac cttcagaggt tccgaaaacg gccataaccg gaagcgaatt 720

```

## 10

```

gcgctatcca attgatgcac acgccactcc agccgtttga taagagcgac aacaatgacg 780
aggcaacgaa aacgcatgcc actccacatg atggttttga atatcaaaac agctttgggt 840
atgcttacga taatctggaa ctgaatcact actcgattcc tcagcttgat cacatgctgc 900
aagaaagaaa aaggcatgac agagtattcg ctggcttcct ccttcacaat attggaacat 960
ctgccgatgg ccatgtatgt gtatgtctcc caactgggga acacacgaag gactgcagtc 1020
atgaggctgg tatgttctcc atcttaggcg gtcaaacgga gatgtccttt gtatttgaca 1080
gactttacaa acttgacata actaaagcct tgaanaagaa cggtgtgcac ctgcaagggg 1140
atttcgatct ggaaattgag attacggctg tgaatggatc tcatctagac agtcatgtca 1200
tccactctcc cactatactg tttgaggccg gaacag 1236

```

&lt;210&gt; 19

&lt;211&gt; 241

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 19

```

attctgcccc cacagatgat ggacacactg aaccagtgat gattcgcaaa gatatcacac 60
aattggacaa gcgtcaacaa ctgtcactgg tgaaagccct cgagtccatg aaagccgacc 120
attcatctga tgggttccag gcaatcgctt ccttccatgc tcttctcctt ctttgtccat 180
caccagctgc ttcaaagagg tttgcgtgct gcgtccatgg catgccaaacc ttcccgaat 240
g 241

```

&lt;210&gt; 20

&lt;211&gt; 949

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 20

```

ggcctgccct actgggattg gaccatgcca atgagtcatt tgccagaact ggctacaagt 60
gagacctacc tcgatccagt tactggggaa actaaaaaca accctttcca tcacgccccaa 120
gtggcggttg aaaatggtgt aacaagcagg aatcctgatg ccaaactttt tatgaaacca 180
acttacggag accacactta cctcttcgac agcatgatct acgcatttga gcaggaagac 240
ttctgcgact ttgaagtcca atatgagctc acgcataatg caatacatgc atgggttgga 300
ggcagtgaiaa agtattcaat gtcttctctt cactacactg cttttgatcc tatattttac 360
ctccatcact caaatgttga tcgtctctgg gccatttggc aagctcttca aatcaggaga 420
ggcaagtctt acaaggccca ctgcgcctcg tctcaagaaa gagaaccatt aaagcctttt 480
gcattcagtt cccactgaa caacaacgag aaaacgtacc acaactctgt cccactaac 540
gtttatgact atgtgggagt tttgcaactat cgatatgatg accttcagtt tggcggtatg 600
accatgtcag aacttgagga atatattcac aagcagacac aacatgatag aacctttgca 660
ggattcttcc ttcatatat tggaacatca gcaagcgtag atatcttcat caatcgagaa 720
ggatcatgata aatacaaaagt gggaaagttt gttagtactg gtgatccaa agaaatgaaa 780
tggtggtttg atagaatgta caagtatgag atcactgagg ctctgaagac gctgaatgtt 840
gcagtggatg atgggttcag cattactgtt gagatcaccg atgttgatgg atctccccc 900
tctgcagatc tcattccacc tctgctata atctttgaac gtggtcatg 949

```

&lt;210&gt; 21

&lt;211&gt; 760

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 21

```

ctgatgcaa agactttggc catagcagaa aaatcaggaa agccgttgat tctctgacag 60
tcgaagaaca aacttcgttg aggcgagcta tggcagatct acaggacgac aaaacatcag 120
gggttttcca gcagattgca gcattccacg gagaacaaaa atggtgtcca agccccgaag 180
cggagaaaaa atttgcatgc tgtgttcacg gaatggctgt tttccctcac tggcacagat 240
tgctgacagt tcaaggagaa aatgctctga ggaaacatgg ctttactggg ggactgccct 300

```

11

```

actgggactg gactcgatca atgagcgccc ttccacattt tgttgotgat cctacttaca 360
atgatgctat ttccagccag gaagaagata acccatggca tcatggtcac atagactctg 420
ttgggcatga tactacaaga gatgtgctg atgatcttta tcaatctcct ggtttcgggc 480
actacacaga tattgcacaa caagtccttc tggcctttga gcaggacagt ttctgtgatt 540
ttgaggtaca atttgaaatt gcccataaatt tcatacatgc actgattggg ggtaacgaac 600
catacagtat gtcactcttg aggtatacta catacgatec aatcttcttc ttgcaccact 660
ccagttacaga ccgacttttg gccatctggc aagcaatcac tagtgcgggc gcctgcaggt 720
cgaccataag ggagagctcc caacgcgttg gatgcaatct 760

```

&lt;210&gt; 22

&lt;211&gt; 323

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 22

```

gttcacacca ggctgatgaa tatcgtgagg cagtaacaag cgctagccac ataagaaaaa 60
atatccggga cctctcagag ggagaaattg agagcatcag atctgctttc ctccaaattc 120
aaaaagaggg tatatatgaa aacattgcaa agttccatgg aaaaccagga ctttgtgaac 180
atgatggaca tcctgttgct tgttgtgtcc atggcatgcc cacctttccc cactggcaca 240
gactgtacgt tcttcaggtg gagaatgcgc tcttagaacg agggctctgca gttgctgttc 300
cttactggga ctggacccta cct 323

```

&lt;210&gt; 23

&lt;211&gt; 988

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 23

```

atggctgtgt ttccgcaactg gcacagactg tttgtgaaac agatggagga cgcacttgct 60
gtcatgggag ctcatattgg cataccatac tgggattgga caagtgcgtt tagtcatctg 120
cccgccctag tgactgacca cgagaacaat ccctccacc acggccatat tggcatctg 180
aatgtggata catctcgatc tccaagagac atgctgttta atgatcctga acaaggctca 240
gaatcattct tctacagaca gggtctcttg actctagaac agacagactt ctgccaaattt 300
gaagttcagt ttgaacttac acacaatgcc atccactctt ggactggagg acatactcca 360
tatggaatgt catcactgga atatacagca tatgatccac tcttttatct ccaccattcc 420
aacactgatc gtatctgggc catctggcag gcaactccaga aatatagagg tcttccatac 480
aacgcagctc actgcgatat ccaagttctg aaacaacctc ttaaaccatt cagcaggtcc 540
aggaatccaa acccagtcac cagagccaat tctagggccg ttgattcatt tgattatgag 600
aaattcaatt atcaatatga cacacttacc ttccacggac tttctatccc agaacttgat 660
gccatgcttc aagagagaaa gaaggaagag agaacatttg cagccttcct gttgcacgga 720
tttgccgcca gtgctgatgt ttcgtttgat gtctgcacac ctgatggtca ttgtgccttt 780
gctggaacct tcgcggtact tgggtggggag cttgagatgc cctgggtcctt tgaaagattg 840
ttccgttacg atatcacaaa gggtctcaag cagatgaatc ttcactatga ttctgagttc 900
cactttgagt tgaagattgt tggcacagat ggaacagaac tgccatcgga tcgtatcaag 960
agccctacca ttgaacacca tggaggag 988

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&lt;210&gt; 24

&lt;211&gt; 310

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 24

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gtcacgatca cagtgaacgt cacgatggat ttttcaggaa ggaagtcggt tccctgtccc 60
tggatgaagc caatgacctt aaaaatgcac tgtacaagct gcagaatgat caggggtcca 120
atggatatga atcaatagcc ggttaccatg gctatccatt cctctgccct gaacatgggt 180
aagaccagta cgcagtctgt gtccacggaa tgctgtatt tccacattgg cacagacttc 240
atacaatcca gtttgagaga gctctcaaag aacatggttc tcatttgggt ctgccatact 300

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gggactggac

&lt;210&gt; 25

&lt;211&gt; 422

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;220&gt;

&lt;221&gt; SIGNAL

&lt;222&gt; (1)..(15)

&lt;400&gt; 25

Leu Val Gln Phe Leu Leu Val Ala Leu Val Ala Gly Ala Gly Ala Asp  
 1 5 10 15

Asn Val Val Arg Lys Asp Val Ser His Leu Thr Asp Asp Glu Val Gln  
 20 25 30

Ala Leu His Gly Ala Leu His Asp Val Thr Ala Ser Thr Gly Pro Leu  
 35 40 45

Ser Phe Glu Asp Ile Thr Ser Tyr His Ala Ala Pro Ala Ser Cys Asp  
 50 55 60

Tyr Lys Gly Arg Lys Ile Ala Cys Cys Val His Gly Met Pro Ser Phe  
 65 70 75 80

Pro Phe Trp His Arg Ala Tyr Val Val Gln Ala Glu Arg Ala Leu Leu  
 85 90 95

Ser Lys Arg Lys Thr Val Gly Met Pro Tyr Trp Asp Trp Thr Gln Thr  
 100 105 110

Leu Thr His Leu Pro Ser Leu Val Thr Glu Pro Ile Tyr Ile Asp Ser  
 115 120 125

Lys Gly Gly Lys Ala Gln Thr Asn Tyr Trp Tyr Arg Gly Glu Ile Ala  
 130 135 140

Phe Ile Asn Lys Lys Thr Ala Arg Ala Val Asp Asp Arg Leu Phe Glu  
 145 150 155 160

Lys Val Glu Pro Gly His Tyr Thr His Leu Met Glu Thr Val Leu Asp  
 165 170 175

Ala Leu Glu Gln Asp Glu Phe Cys Lys Phe Glu Ile Gln Phe Glu Leu  
 180 185 190

Ala His Asn Ala Ile His Tyr Leu Val Gly Gly Lys Phe Glu Tyr Ser  
 195 200 205

Met Ser Asn Leu Glu Tyr Thr Ser Tyr Asp Pro Ile Phe Phe Leu His  
 210 215 220

His Ser Asn Val Asp Arg Leu Phe Ala Ile Trp Gln Arg Leu Gln Glu  
 225 230 235 240

13

Leu Arg Gly Lys Asn Pro Asn Ala Met Asp Cys Ala His Glu Leu Ala  
 245 250 255  
 His Gln Gln Leu Gln Pro Phe Asn Arg Asp Ser Asn Pro Val Gln Leu  
 260 265 270  
 Thr Lys Asp His Ser Thr Pro Ala Asp Leu Phe Asp Tyr Lys Gln Leu  
 275 280 285  
 Gly Tyr Ser Tyr Asp Ser Leu Asn Leu Asn Gly Met Thr Pro Glu Gln  
 290 295 300  
 Leu Lys Thr Glu Leu Asp Glu Arg His Ser Lys Glu Arg Ala Phe Ala  
 305 310 315 320  
 Ser Phe Arg Leu Ser Gly Phe Gly Gly Ser Ala Asn Val Val Val Tyr  
 325 330 335  
 Ala Cys Val Pro Asp Asp Asp Pro Arg Ser Asp Asp Tyr Cys Glu Lys  
 340 345 350  
 Ala Gly Asp Phe Phe Ile Leu Gly Gly Gln Ser Glu Met Pro Trp Arg  
 355 360 365  
 Phe Tyr Arg Pro Phe Phe Tyr Asp Val Thr Glu Ala Val His His Leu  
 370 375 380  
 Gly Val Pro Leu Ser Gly His Tyr Tyr Val Lys Thr Glu Leu Phe Ser  
 385 390 395 400  
 Val Asn Gly Thr Ala Leu Ser Pro Asp Leu Leu Pro Gln Pro Thr Val  
 405 410 415  
 Ala Tyr Arg Pro Gly Lys  
 420

&lt;210&gt; 26

&lt;211&gt; 419

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 26

Gly His Leu Asp Pro Pro Val His His Arg His Asp Asp Asp Leu Ile  
 1 5 10 15  
 Val Arg Lys Asn Ile Asp His Leu Thr Arg Glu Glu Glu Tyr Glu Leu  
 20 25 30  
 Arg Met Ala Leu Glu Arg Phe Gln Ala Asp Thr Ser Val Asp Gly Tyr  
 35 40 45  
 Gln Ala Thr Val Glu Tyr His Gly Leu Pro Ala Arg Cys Pro Arg Pro  
 50 55 60  
 Asp Ala Lys Val Arg Phe Ala Cys Cys Met His Gly Met Ala Ser Phe  
 65 70 75 80

Pro His Trp His Arg Leu Phe Val Thr Gln Val Glu Asp Ala Leu Val  
85 90 95

Arg Arg Gly Ser Pro Ile Gly Val Pro Tyr Trp Asp Trp Thr Lys Pro  
100 105 110

Met Thr His Leu Pro Asp Leu Ala Ser Asn Glu Thr Tyr Val Asp Pro  
115 120 125

Tyr Gly His Thr His His Asn Pro Phe Phe Asn Ala Asn Ile Ser Phe  
130 135 140

Glu Glu Gly His His His Thr Ser Arg Met Ile Asp Ser Lys Leu Phe  
145 150 155 160

Ala Pro Val Ala Phe Gly Glu His Ser His Leu Phe Asp Gly Ile Leu  
165 170 175

Tyr Ala Phe Glu Gln Glu Asp Phe Cys Asp Phe Glu Ile Gln Phe Glu  
180 185 190

Leu Val His Asn Ser Ile His Ala Trp Ile Gly Gly Ser Glu Asp Tyr  
195 200 205

Ser Met Ala Thr Leu His Tyr Thr Ala Phe Asp Pro Ile Phe Tyr Leu  
210 215 220

His His Ser Asn Val Asp Arg Leu Trp Ala Ile Trp Gln Ala Leu Gln  
225 230 235 240

Ile Arg Arg His Lys Pro Tyr Gln Ala His Cys Ala Gln Ser Val Glu  
245 250 255

Gln Leu Pro Met Lys Pro Phe Ala Phe Pro Ser Pro Leu Asn Asn Asn  
260 265 270

Glu Lys Thr His Ser His Ser Val Pro Thr Asp Ile Tyr Asp Tyr Glu  
275 280 285

Glu Val Leu His Tyr Ser Tyr Asp Asp Leu Thr Phe Gly Gly Met Asn  
290 295 300

Leu Glu Glu Ile Glu Glu Ala Ile His Leu Arg Gln Gln His Glu Arg  
305 310 315 320

Val Phe Ala Gly Phe Leu Leu Ala Gly Ile Gly Thr Ser Ala Leu Val  
325 330 335

Asp Ile Phe Ile Asn Lys Pro Gly Asn Gln Pro Leu Lys Ala Gly Asp  
340 345 350

Ile Ala Ile Leu Gly Gly Ala Lys Glu Met Pro Trp Ala Phe Asp Arg  
355 360 365

Leu Tyr Lys Val Glu Ile Thr Asp Ser Leu Lys Thr Leu Ser Leu Asp  
370 375 380

15

Val Asp Gly Asp Tyr Glu Val Thr Phe Lys Ile His Asp Met His Gly  
385 390 395 400

Asn Ala Leu Asp Thr Asp Leu Ile Pro His Ala Ala Val Val Ser Glu  
405 410 415

Pro Ala His

<210> 27

<211> 414

<212> PRT

<213> *Haliotis tuberculata*

<400> 27

Pro Thr Phe Glu Asp Glu Lys His Ser Leu Arg Ile Arg Lys Asn Val  
1 5 10 15

Asp Ser Leu Thr Pro Glu Glu Thr Asn Glu Leu Arg Lys Ala Leu Glu  
20 25 30

Leu Leu Glu Asn Asp His Thr Ala Gly Gly Phe Asn Gln Leu Gly Ala  
35 40 45

Phe His Gly Glu Pro Lys Trp Cys Pro Asn Pro Glu Ala Glu His Lys  
50 55 60

Val Ala Cys Cys Val His Gly Met Ala Val Phe Pro His Trp His Arg  
65 70 75 80

Leu Leu Ala Leu Gln Ala Glu Asn Ala Leu Arg Lys His Gly Tyr Ser  
85 90 95

Gly Ala Leu Pro Tyr Trp Asp Trp Thr Arg Pro Leu Ser Gln Leu Pro  
100 105 110

Asp Leu Val Ser His Glu Gln Tyr Thr Asp Pro Ser Asp His His Val  
115 120 125

Lys His Asn Pro Trp Phe Asn Gly His Ile Asp Thr Val Asn Gln Asp  
130 135 140

Thr Thr Arg Ser Val Arg Glu Asp Leu Tyr Gln Gln Pro Glu Phe Gly  
145 150 155 160

His Phe Thr Asp Ile Ala Gln Gln Val Leu Leu Ala Leu Glu Gln Asp  
165 170 175

Asp Phe Cys Ser Phe Glu Val Gln Tyr Glu Ile Ser His Asn Phe Ile  
180 185 190

His Ala Leu Val Gly Gly Thr Asp Ala Tyr Gly Met Ala Ser Leu Arg  
195 200 205

16

Tyr Thr Ala Tyr Asp Pro Ile Phe Phe Leu His His Ser Asn Thr Asp  
 210 215 220  
 Arg Ile Trp Ala Ile Trp Gln Ser Leu Gln Lys Tyr Arg Gly Lys Pro  
 225 230 235 240  
 Tyr Asn Thr Ala Asn Cys Ala Ile Glu Ser Met Arg Arg Pro Leu Gln  
 245 250 255  
 Pro Phe Gly Leu Ser Ser Ala Ile Asn Pro Asp Arg Ile Thr Arg Glu  
 260 265 270  
 His Ala Ile Pro Phe Asp Val Phe Asn Tyr Arg Asp Asn Leu His Tyr  
 275 280 285  
 Val Tyr Asp Thr Leu Glu Phe Asn Gly Leu Ser Ile Ser Gln Leu Asp  
 290 295 300  
 Arg Glu Leu Glu Lys Ile Lys Ser His Glu Arg Val Phe Ala Gly Phe  
 305 310 315 320  
 Leu Leu Ser Gly Ile Lys Lys Ser Ala Leu Val Lys Phe Glu Val Cys  
 325 330 335  
 Thr Pro Pro Asp Asn Cys His Lys Ala Gly Glu Phe Tyr Leu Leu Gly  
 340 345 350  
 Asp Glu Asn Glu Met Ala Trp Ala Tyr Asp Arg Leu Phe Lys Tyr Asp  
 355 360 365  
 Ile Thr Gln Val Leu Glu Ala Asn His Leu His Phe Tyr Asp His Leu  
 370 375 380  
 Phe Ile Arg Tyr Glu Val Phe Asp Leu Lys Gly Val Ser Leu Gly Thr  
 385 390 395 400  
 Asp Leu Phe His Thr Ala Asn Val Val His Asp Ser Gly Thr  
 405 410

&lt;210&gt; 28

&lt;211&gt; 413

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 28

Gly Thr Arg Asp Arg Asp Asn Tyr Val Glu Glu Val Thr Gly Ala Ser  
 1 5 10 15  
 His Ile Arg Lys Asn Leu Asn Asp Leu Asn Thr Gly Glu Met Glu Ser  
 20 25 30  
 Leu Arg Ala Ala Phe Leu His Ile Gln Asp Asp Gly Thr Tyr Glu Ser  
 35 40 45  
 Ile Ala Gln Tyr His Gly Lys Pro Gly Lys Cys Gln Leu Asn Asp His  
 50 55 60



Asn Ile Ala Cys Cys Val His Gly Met Pro Thr Phe Pro Gln Trp His  
 65 70 75 80  
 Arg Leu Tyr Val Val Gln Val Glu Asn Ala Leu Leu Asn Arg Gly Ser  
 85 90 95  
 Gly Val Ala Val Pro Tyr Trp Glu Trp Thr Ala Pro Ile Asp His Leu  
 100 105 110  
 Pro His Phe Ile Asp Asp Ala Thr Tyr Phe Asn Ser Arg Gln Gln Arg  
 115 120 125  
 Tyr Asp Pro Asn Pro Phe Phe Arg Gly Lys Val Thr Phe Glu Asn Ala  
 130 135 140  
 Val Thr Thr Arg Asp Pro Gln Ala Gly Leu Phe Asn Ser Asp Tyr Met  
 145 150 155 160  
 Tyr Glu Asn Val Leu Leu Ala Leu Glu Gln Glu Asn Tyr Cys Asp Phe  
 165 170 175  
 Glu Ile Gln Phe Glu Leu Val His Asn Ala Leu His Ser Met Leu Gly  
 180 185 190  
 Gly Lys Gly Gln Tyr Ser Met Ser Ser Leu Asp Tyr Ser Ala Phe Asp  
 195 200 205  
 Pro Val Phe Phe Leu His His Ala Asn Thr Asp Arg Leu Trp Ala Ile  
 210 215 220  
 Trp Gln Glu Leu Gln Arg Phe Arg Glu Leu Pro Tyr Glu Glu Ala Asn  
 225 230 235 240  
 Cys Ala Ile Asn Leu Met His Gln Pro Leu Lys Pro Phe Ser Asp Pro  
 245 250 255  
 His Glu Asn His Asp Asn Val Thr Leu Lys Tyr Ser Lys Pro Gln Asp  
 260 265 270  
 Gly Phe Asp Tyr Gln Asn His Phe Gly Tyr Lys Tyr Asp Asn Leu Glu  
 275 280 285  
 Phe His His Leu Ser Ile Pro Ser Leu Asp Ala Thr Leu Lys Gln Arg  
 290 295 300  
 Arg Asn His Asp Arg Val Phe Ala Gly Phe Leu Leu His Asn Ile Gly  
 305 310 315 320  
 Thr Ser Ala Asp Ile Thr Ile Tyr Ile Cys Leu Pro Asp Gly Arg Arg  
 325 330 335  
 Gly Asn Asp Cys Ser His Glu Ala Gly Thr Phe Tyr Ile Leu Gly Gly  
 340 345 350  
 Glu Thr Glu Met Pro Phe Ile Phe Asp Arg Leu Tyr Lys Phe Glu Ile  
 355 360 365

Thr Lys Pro Leu Gln Gln Leu Gly Val Lys Leu His Gly Gly Val Phe  
 370 375 380

Glu Leu Glu Leu Glu Ile Lys Ala Tyr Asn Gly Ser Tyr Leu Asp Pro  
 385 390 395 400

His Thr Phe Asp Pro Thr Ile Ile Phe Glu Pro Gly Thr  
 405 410

<210> 29

<211> 420

<212> PRT

<213> Haliotis tuberculata

<400> 29

Asp Thr His Ile Leu Asp His Asp His Glu Glu Glu Ile Leu Val Arg  
 1 5 10 15

Lys Asn Ile Ile Asp Leu Ser Pro Arg Glu Arg Val Ser Leu Val Lys  
 20 25 30

Ala Leu Gln Arg Met Lys Asn Asp Arg Ser Ala Asp Gly Tyr Gln Ala  
 35 40 45

Ile Ala Ser Phe His Ala Leu Pro Pro Leu Cys Pro Asn Pro Ser Ala  
 50 55 60

Ala His Arg Tyr Ala Cys Cys Val His Gly Met Ala Thr Phe Pro Gln  
 65 70 75 80

Trp His Arg Leu Tyr Thr Val Gln Val Gln Asp Ala Leu Arg Arg His  
 85 90 95

Gly Ser Leu Val Gly Ile Pro Tyr Trp Asp Trp Thr Lys Pro Val Asn  
 100 105 110

Glu Leu Pro Glu Leu Leu Ser Ser Ala Thr Phe Tyr His Pro Ile Arg  
 115 120 125

Asn Ile Asn Ile Ser Asn Pro Phe Leu Gly Ala Asp Ile Glu Phe Glu  
 130 135 140

Gly Pro Gly Val His Thr Glu Arg His Ile Asn Thr Glu Arg Leu Phe  
 145 150 155 160

His Ser Gly Asp His Asp Gly Tyr His Asn Trp Phe Phe Glu Thr Val  
 165 170 175

Leu Phe Ala Leu Glu Gln Glu Asp Tyr Cys Asp Phe Glu Ile Gln Phe  
 180 185 190

Glu Ile Ala His Asn Gly Ile His Thr Trp Ile Gly Gly Ser Ala Val  
 195 200 205

19

Tyr Gly Met Gly His Leu His Tyr Ala Ser Tyr Asp Pro Ile Phe Tyr  
 210 215 220  
 Ile His His Ser Gln Thr Asp Arg Ile Trp Ala Ile Trp Gln Glu Leu  
 225 230 235 240  
 Gln Lys Tyr Arg Gly Leu Ser Gly Ser Glu Ala Asn Cys Ala Ile Glu  
 245 250 255  
 His Met Arg Thr Pro Leu Lys Pro Phe Ser Phe Gly Pro Pro Tyr Asn  
 260 265 270  
 Leu Asn Ser His Thr Gln Glu Tyr Ser Lys Pro Glu Asp Thr Phe Asp  
 275 280 285  
 Tyr Lys Lys Phe Gly Tyr Arg Tyr Asp Ser Leu Glu Leu Glu Gly Arg  
 290 295 300  
 Ser Ile Ser Arg Ile Asp Glu Leu Ile Gln Gln Arg Gln Glu Lys Asp  
 305 310 315 320  
 Arg Thr Phe Ala Gly Phe Leu Leu Lys Gly Phe Gly Thr Ser Ala Ser  
 325 330 335  
 Val Ser Leu Gln Val Cys Arg Val Asp His Thr Cys Lys Asp Ala Gly  
 340 345 350  
 Tyr Phe Thr Ile Leu Gly Gly Ser Ala Glu Met Pro Trp Ala Phe Asp  
 355 360 365  
 Arg Leu Tyr Lys Tyr Asp Ile Thr Lys Thr Leu His Asp Met Asn Leu  
 370 375 380  
 Arg His Glu Asp Thr Phe Ser Ile Asp Val Thr Ile Thr Ser Tyr Asn  
 385 390 395 400  
 Gly Thr Val Leu Ser Gly Asp Leu Ile Gln Thr Pro Ser Ile Ile Phe  
 405 410 415  
 Val Pro Gly Arg  
 420

&lt;210&gt; 30

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 30

His Lys Leu Asn Ser Arg Lys His Thr Pro Asn Arg Val Arg His Glu  
 1 5 10 15

Leu Ser Ser Leu Ser Ser Arg Asp Ile Ala Ser Leu Lys Ala Ala Leu  
 20 25 30

Thr Ser Leu Gln His Asp Asn Gly Thr Asp Gly Tyr Gln Ala Ile Ala  
 35 40 45

20

Ala Phe His Gly Val Pro Ala Gln Cys His Glu Pro Ser Gly Arg Glu  
 50 55 60  
 Ile Ala Cys Cys Ile His Gly Met Ala Thr Phe Pro His Trp His Arg  
 65 70 75 80  
 Leu Tyr Thr Leu Gln Leu Glu Gln Ala Leu Arg Arg His Gly Ser Ser  
 85 90 95  
 Val Ala Val Pro Tyr Trp Asp Trp Thr Lys Pro Ile Thr Glu Leu Pro  
 100 105 110  
 His Ile Leu Thr Asp Gly Glu Tyr Tyr Asp Val Trp Gln Asn Ala Val  
 115 120 125  
 Leu Ala Asn Pro Phe Ala Arg Gly Tyr Val Lys Ile Lys Asp Ala Phe  
 130 135 140  
 Thr Val Arg Asn Val Gln Glu Ser Leu Phe Lys Met Ser Ser Phe Gly  
 145 150 155 160  
 Lys His Ser Leu Leu Phe Asp Gln Ala Leu Leu Ala Leu Glu Gln Thr  
 165 170 175  
 Asp Tyr Cys Asp Phe Glu Val Gln Phe Glu Val Met His Asn Thr Ile  
 180 185 190  
 His Tyr Leu Val Gly Gly Arg Gln Thr Tyr Ala Phe Ser Ser Leu Glu  
 195 200 205  
 Tyr Ser Ser Tyr Asp Pro Ile Phe Phe Ile His His Ser Phe Val Asp  
 210 215 220  
 Lys Ile Trp Ala Val Trp Gln Glu Leu Gln Ser Arg Arg His Leu Gln  
 225 230 235 240  
 Phe Arg Thr Ala Asp Cys Ala Val Gly Leu Met Gly Gln Ala Met Arg  
 245 250 255  
 Pro Phe Asn Lys Asp Phe Asn His Asn Ser Phe Thr Lys Lys His Ala  
 260 265 270  
 Val Pro Asn Thr Val Phe Asp Tyr Glu Asp Leu Gly Tyr Asn Tyr Asp  
 275 280 285  
 Asn Leu Glu Ile Ser Gly Leu Asn Leu Asn Glu Ile Glu Ala Leu Ile  
 290 295 300  
 Ala Lys Arg Lys Ser His Ala Arg Val Phe Ala Gly Phe Leu Leu Phe  
 305 310 315 320  
 Gly Leu Gly Thr Ser Ala Asp Ile His Leu Glu Ile Cys Lys Thr Ser  
 325 330 335  
 Glu Asn Cys His Asp Ala Gly Val Ile Phe Ile Leu Gly Gly Ser Ala  
 340 345 350

ERSATZBLATT (REGEL 26)

21

Glu Met His Trp Ala Tyr Asn Arg Leu Tyr Lys Tyr Asp Ile Thr Glu  
 355 360 365

Ala Leu Gln Glu Phe Asp Ile Asn Pro Glu Asp Val Phe His Ala Asp  
 370 375 380

Glu Pro Phe Phe Leu Arg Leu Ser Val Val Ala Val Asn Gly Thr Val  
 385 390 395 400

Ile Pro Ser Ser His Leu His Gln Pro Thr Ile Ile Tyr Glu Pro Gly  
 405 410 415

Glu

<210> 31

<211> 403

<212> PRT

<213> Haliotis tuberculata

<400> 31

Asp His His Asp Asp His Gln Ser Gly Ser Ile Ala Gly Ser Gly Val  
 1 5 10 15

Arg Lys Asp Val Asn Thr Leu Thr Lys Ala Glu Thr Asp Asn Leu Arg  
 20 25 30

Glu Ala Leu Trp Gly Val Met Ala Asp His Gly Pro Asn Gly Phe Gln  
 35 40 45

Ala Ile Ala Ala Phe His Gly Lys Pro Ala Leu Cys Pro Met Pro Asp  
 50 55 60

Gly His Asn Tyr Ser Cys Cys Thr His Gly Met Ala Thr Phe Pro His  
 65 70 75 80

Trp His Arg Leu Tyr Thr Lys Gln Met Glu Asp Ala Met Arg Ala His  
 85 90 95

Gly Ser His Val Gly Leu Pro Tyr Trp Asp Trp Thr Ala Ala Phe Thr  
 100 105 110

His Leu Pro Thr Leu Val Thr Asp Thr Asp Asn Asn Pro Phe Gln His  
 115 120 125

Gly His Ile Asp Tyr Leu Asn Val Ser Thr Thr Arg Ser Pro Arg Asp  
 130 135 140

Met Leu Phe Asn Asp Pro Glu His Gly Ser Glu Ser Phe Phe Tyr Arg  
 145 150 155 160

Gln Val Leu Leu Ala Leu Glu Gln Thr Asp Phe Cys Lys Phe Glu Val  
 165 170 175

22

Gln Phe Glu Ile Thr His Asn Ala Ile His Ser Trp Thr Gly Gly His  
 180 185 190  
 Ser Pro Tyr Gly Met Ser Thr Leu Asp Phe Thr Ala Tyr Asp Pro Leu  
 195 200 205  
 Phe Trp Leu His His Ser Asn Thr Asp Arg Ile Trp Ala Val Trp Gln  
 210 215 220  
 Ala Leu Gln Glu Tyr Arg Gly Leu Pro Tyr Asn His Ala Asn Cys Glu  
 225 230 235 240  
 Ile Gln Ala Met Lys Thr Pro Leu Arg Pro Phe Ser Asp Asp Ile Asn  
 245 250 255  
 His Asn Pro Val Thr Lys Ala Asn Ala Lys Pro Leu Asp Val Phe Glu  
 260 265 270  
 Tyr Asn Arg Leu Ser Phe Gln Tyr Asp Asn Leu Ile Phe His Gly Tyr  
 275 280 285  
 Ser Ile Pro Glu Leu Asp Arg Val Leu Glu Glu Arg Lys Glu Glu Asp  
 290 295 300  
 Arg Ile Phe Ala Ala Phe Leu Leu Ser Gly Ile Lys Arg Ser Ala Asp  
 305 310 315 320  
 Val Val Phe Asp Ile Cys Gln Pro Glu His Glu Cys Val Phe Ala Gly  
 325 330 335  
 Thr Phe Ala Ile Leu Gly Gly Glu Leu Glu Met Pro Trp Ser Phe Asp  
 340 345 350  
 Arg Leu Phe Arg Tyr Asp Ile Thr Lys Val Met Lys Gln Leu His Leu  
 355 360 365  
 Arg His Asp Ser Asp Phe Thr Phe Arg Val Lys Ile Val Gly Thr Asp  
 370 375 380  
 Asp His Glu Leu Pro Ser Asp Ser Val Lys Ala Pro Thr Ile Glu Phe  
 385 390 395 400  
 Glu Pro Gly

&lt;210&gt; 32

&lt;211&gt; 511

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 32

Val His Arg Gly Gly Asn His Glu Asp Glu His His Asp Asp Arg Leu  
 1 5 10 15

Ala Asp Val Leu Ile Arg Lys Glu Val Asp Phe Leu Ser Leu Gln Glu  
 20 25 30

## 23

Ala Asn Ala Ile Lys Asp Ala Leu Tyr Lys Leu Gln Asn Asp Asp Ser  
           35                          40                          45  
 Lys Gly Gly Phe Glu Ala Ile Ala Gly Tyr His Gly Tyr Pro Asn Met  
       50                          55                          60  
 Cys Pro Glu Arg Gly Thr Asp Lys Tyr Pro Cys Cys Val His Gly Met  
       65                          70                          75                          80  
 Pro Val Phe Pro His Trp His Arg Leu His Thr Ile Gln Met Glu Arg  
                           85                          90                          95  
 Ala Leu Lys Asn His Gly Ser Pro Met Gly Ile Pro Tyr Trp Asp Trp  
                           100                          105                          110  
 Thr Lys Lys Met Ser Ser Leu Pro Ser Phe Phe Gly Asp Ser Ser Asn  
           115                          120                          125  
 Asn Asn Pro Phe Tyr Lys Tyr Tyr Ile Arg Gly Val Gln His Glu Thr  
       130                          135                          140  
 Thr Arg Asp Val Asn Gln Arg Leu Phe Asn Gln Thr Lys Phe Gly Glu  
   145                          150                          155                          160  
 Phe Asp Tyr Leu Tyr Tyr Leu Thr Leu Gln Val Leu Glu Glu Asn Ser  
                           165                          170                          175  
 Tyr Cys Asp Phe Glu Val Gln Tyr Glu Ile Leu His Asn Ala Val His  
           180                          185                          190  
 Ser Trp Leu Gly Gly Thr Gly Gln Tyr Ser Met Ser Thr Leu Glu Tyr  
       195                          200                          205  
 Ser Ala Phe Asp Pro Val Phe Met Ile His His Ser Ser Leu Asp Arg  
       210                          215                          220  
 Ile Trp Ile Leu Trp Gln Lys Leu Gln Lys Ile Arg Met Lys Pro Tyr  
   225                          230                          235                          240  
 Tyr Ala Leu Asp Cys Ala Gly Asp Arg Leu Met Lys Asp Pro Leu His  
                           245                          250                          255  
 Pro Phe Asn Tyr Glu Thr Val Asn Glu Asp Glu Phe Thr Arg Ile Asn  
           260                          265                          270  
 Ser Phe Pro Ser Ile Leu Phe Asp His Tyr Arg Phe Asn Tyr Glu Tyr  
       275                          280                          285  
 Asp Asn Met Arg Ile Arg Gly Gln Asp Ile His Glu Leu Glu Glu Val  
       290                          295                          300  
 Ile Gln Glu Leu Arg Asn Lys Asp Arg Ile Phe Ala Gly Phe Val Leu  
   305                          310                          315                          320  
 Ser Gly Leu Arg Ile Ser Ala Thr Val Lys Val Phe Ile His Ser Lys  
           325                          330                          335

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<210> 33
<211> 334
<212> PRT
<213> Haliotis tuberculata
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<400> 33

His	Arg	Leu	Phe	Val	Thr	Gln	Val	Glu	Asp	Ala	Leu	Ile	Arg	Arg	Gly
1				5					10					15	
Ser	Pro	Ile	Gly	Val	Pro	Tyr	Trp	Asp	Trp	Thr	Gln	Pro	Met	Ala	His
			20					25					30		
Leu	Pro	Gly	Leu	Ala	Asp	Asn	Ala	Thr	Tyr	Arg	Asp	Pro	Ile	Ser	Gly
		35					40					45			
Asp	Ser	Arg	His	Asn	Pro	Phe	His	Asp	Val	Glu	Val	Ala	Phe	Glu	Asn
	50					55					60				
Gly	Arg	Thr	Glu	Arg	His	Pro	Asp	Ser	Arg	Leu	Phe	Glu	Gln	Pro	Leu
65					70					75					80



25

Phe Gly Lys His Thr Arg Leu Phe Asp Ser Ile Val Tyr Ala Phe Glu  
                                     85                                    90                                    95  
 Gln Glu Asp Phe Cys Asp Phe Glu Val Gln Phe Glu Met Thr His Asn  
                                     100                                    105                                    110  
 Asn Ile His Ala Trp Ile Gly Gly Gly Glu Lys Tyr Ser Met Ser Ser  
                                     115                                    120                                    125  
 Leu His Tyr Thr Ala Phe Asp Pro Ile Phe Tyr Leu Arg His Ser Asn  
                                     130                                    135                                    140  
 Thr Asp Arg Leu Trp Ala Ile Trp Gln Ala Leu Gln Ile Arg Arg Asn  
                                     145                                    150                                    155                                    160  
 Arg Pro Tyr Lys Ala His Cys Ala Trp Ser Glu Glu Arg Gln Pro Leu  
                                     165                                    170                                    175  
 Lys Pro Phe Ala Phe Ser Ser Pro Leu Asn Asn Asn Glu Lys Thr Tyr  
                                     180                                    185                                    190  
 Glu Asn Ser Val Pro Thr Asn Val Tyr Asp Tyr Glu Gly Val Leu Gly  
                                     195                                    200                                    205  
 Tyr Thr Tyr Asp Asp Leu Asn Phe Gly Gly Met Asp Leu Gly Gln Leu  
                                     210                                    215                                    220  
 Glu Glu Tyr Ile Gln Arg Gln Arg Gln Arg Asp Arg Thr Phe Ala Gly  
                                     225                                    230                                    235                                    240  
 Phe Phe Leu Ser His Ile Gly Thr Ser Ala Asn Val Glu Ile Ile Ile  
                                     245                                    250                                    255  
 Asp His Gly Thr Leu His Thr Ser Val Gly Thr Phe Ala Val Leu Gly  
                                     260                                    265                                    270  
 Gly Glu Lys Glu Met Lys Trp Gly Phe Asp Arg Leu Tyr Lys Tyr Glu  
                                     275                                    280                                    285  
 Ile Thr Asp Glu Leu Arg Gln Leu Asn Leu Arg Ala Asp Asp Val Phe  
                                     290                                    295                                    300  
 Ser Ile Ser Val Lys Val Thr Asp Val Asp Gly Ser Glu Leu Ser Ser  
                                     305                                    310                                    315                                    320  
 Glu Leu Ile Pro Ser Ala Ala Ile Ile Phe Glu Arg Ser His  
                                     325                                    330

&lt;210&gt; 34

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 34

Ile Asp His Gln Asp Pro His His Asp Thr Ile Ile Arg Lys Asn Val  
           1                                    5                                    10                                    15

26

Asp Asn Leu Thr Pro Glu Glu Ile Asn Ser Leu Arg Arg Ala Met Ala  
 20 25 30  
 Asp Leu Gln Ser Asp Lys Thr Ala Gly Gly Phe Gln Gln Ile Ala Ala  
 35 40 45  
 Phe His Gly Glu Pro Lys Trp Cys Pro Ser Pro Asp Ala Glu Lys Lys  
 50 55 60  
 Phe Ser Cys Cys Val His Gly Met Ala Val Phe Pro His Trp His Arg  
 65 70 75 80  
 Leu Leu Thr Val Gln Gly Glu Asn Ala Leu Arg Lys His Gly Cys Leu  
 85 90 95  
 Gly Ala Leu Pro Tyr Trp Asp Trp Thr Arg Pro Leu Ser His Leu Pro  
 100 105 110  
 Asp Leu Val Leu Val Ser Ser Arg Thr Thr Pro Met Pro Tyr Ser Thr  
 115 120 125  
 Val Glu Ala Arg Asn Pro Trp Tyr Ser Gly His Ile Asp Thr Val Gly  
 130 135 140  
 Val Asp Thr Thr Arg Ser Val Arg Gln Glu Leu Tyr Glu Ala Pro Gly  
 145 150 155 160  
 Phe Gly His Tyr Thr Gly Val Ala Lys Gln Val Leu Leu Ala Leu Glu  
 165 170 175  
 Gln Asp Asp Phe Cys Asp Phe Glu Val Gln Phe Glu Ile Ala His Asn  
 180 185 190  
 Phe Ile His Ala Leu Val Gly Gly Ser Glu Pro Tyr Gly Met Ala Ser  
 195 200 205  
 Leu Arg Tyr Thr Thr Tyr Asp Pro Ile Phe Tyr Leu His His Ser Asn  
 210 215 220  
 Thr Asp Arg Leu Trp Ala Ile Trp Gln Ala Leu Gln Lys Tyr Arg Gly  
 225 230 235 240  
 Lys Pro Tyr Asn Ser Ala Asn Cys Ala Ile Ala Ser Met Arg Lys Pro  
 245 250 255  
 Leu Gln Pro Phe Gly Leu Thr Asp Glu Ile Asn Pro Asp Asp Glu Thr  
 260 265 270  
 Arg Gln His Ala Val Pro Phe Ser Val Phe Asp Tyr Lys Asn Asn Phe  
 275 280 285  
 Asn Tyr Glu Tyr Asp Thr Leu Asp Phe Asn Gly Leu Ser Ile Ser Gln  
 290 295 300  
 Leu Asp Arg Glu Leu Ser Arg Arg Lys Ser His Asp Arg Val Phe Ala  
 305 310 315 320

ERSATZBLATT (REGEL 26)

27

Gly Phe Leu Leu His Gly Ile Gln Gln Ser Ala Leu Val Lys Phe Phe  
325 330 335

Val Cys Lys Ser Asp Asp Asp Cys Asp His Tyr Ala Gly Glu Phe Tyr  
340 345 350

Ile Leu Gly Asp Glu Ala Glu Met Pro Trp Gly Tyr Asp Arg Leu Tyr  
355 360 365

Lys Tyr Glu Ile Thr Glu Gln Leu Asn Ala Leu Asp Leu His Ile Gly  
370 375 380

Asp Arg Phe Phe Ile Arg Tyr Glu Ala Phe Asp Leu His Gly Thr Ser  
385 390 395 400

Leu Gly Ser Asn Ile Phe Pro Lys Pro Ser Val Ile His Asp Glu Gly  
405 410 415

Ala

<210> 35

<211> 415

<212> PRT

<213> Haliotis tuberculata

<400> 35

Gly His His Gln Ala Asp Glu Tyr Asp Glu Val Val Thr Ala Ala Ser  
1 5 10 15

His Ile Arg Lys Asn Leu Lys Asp Leu Ser Lys Gly Glu Val Glu Ser  
20 25 30

Leu Arg Ser Ala Phe Leu Gln Leu Gln Asn Asp Gly Val Tyr Glu Asn  
35 40 45

Ile Ala Lys Phe His Gly Lys Pro Gly Leu Cys Asp Asp Asn Gly Arg  
50 55 60

Lys Val Ala Cys Cys Val His Gly Met Pro Thr Phe Pro Gln Trp His  
65 70 75 80

Arg Leu Tyr Val Leu Gln Val Glu Asn Ala Leu Leu Glu Arg Gly Ser  
85 90 95

Ala Val Ser Val Pro Tyr Trp Asp Trp Thr Glu Thr Phe Thr Glu Leu  
100 105 110

Pro Ser Leu Ile Ala Glu Ala Thr Tyr Phe Asn Ser Arg Gln Gln Thr  
115 120 125

Phe Asp Pro Asn Pro Phe Phe Arg Gly Lys Ile Ser Phe Glu Asn Ala  
130 135 140

28

Val Thr Thr Arg Asp Pro Gln Pro Glu Leu Tyr Val Asn Arg Tyr Tyr  
 145 150 155 160  
 Tyr Gln Asn Val Met Leu Val Phe Glu Gln Asp Asn Tyr Cys Asp Phe  
 165 170 175  
 Glu Ile Gln Phe Glu Met Val His Asn Val Leu His Ala Trp Leu Gly  
 180 185 190  
 Gly Arg Ala Thr Tyr Ser Ile Ser Ser Leu Asp Tyr Ser Ala Phe Asp  
 195 200 205  
 Pro Val Phe Phe Leu His His Ala Asn Thr Asp Arg Leu Trp Ala Ile  
 210 215 220  
 Trp Gln Glu Leu Gln Arg Tyr Arg Lys Lys Pro Tyr Asn Glu Ala Asp  
 225 230 235 240  
 Cys Ala Ile Asn Leu Met Arg Lys Pro Leu His Pro Phe Asp Asn Ser  
 245 250 255  
 Asp Leu Asn His Asp Pro Val Thr Phe Lys Tyr Ser Lys Pro Thr Asp  
 260 265 270  
 Gly Phe Asp Tyr Gln Asn Asn Phe Gly Tyr Lys Tyr Asp Asn Leu Glu  
 275 280 285  
 Phe Asn His Phe Ser Ile Pro Arg Leu Glu Glu Ile Ile Arg Ile Arg  
 290 295 300  
 Gln Arg Gln Asp Arg Val Phe Ala Gly Phe Leu Leu His Asn Ile Gly  
 305 310 315 320  
 Thr Ser Ala Thr Val Glu Ile Phe Val Cys Val Pro Thr Thr Ser Gly  
 325 330 335  
 Glu Gln Asn Cys Glu Asn Lys Ala Gly Thr Phe Ala Val Leu Gly Gly  
 340 345 350  
 Glu Thr Glu Met Ala Phe His Phe Asp Arg Leu Tyr Arg Phe Asp Ile  
 355 360 365  
 Ser Glu Thr Leu Arg Asp Leu Gly Ile Gln Leu Asp Ser His Asp Phe  
 370 375 380  
 Asp Leu Ser Ile Lys Ile Gln Gly Val Asn Gly Ser Tyr Leu Asp Pro  
 385 390 395 400  
 His Ile Leu Pro Glu Pro Ser Leu Ile Phe Val Pro Gly Ser Ser  
 405 410 415

&lt;210&gt; 36

&lt;211&gt; 418

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

29

<400> 36  
 Ser Phe Leu Arg Pro Asp Gly His Ser Asp Asp Ile Leu Val Arg Lys  
 1 5 10 15  
 Glu Val Asn Ser Leu Thr Thr Arg Glu Thr Ala Ser Leu Ile His Ala  
 20 25 30  
 Leu Lys Ser Met Gln Glu Asp His Ser Pro Asp Gly Phe Gln Ala Ile  
 35 40 45  
 Ala Ser Phe His Ala Leu Pro Pro Leu Cys Pro Ser Pro Ser Ala Ala  
 50 55 60  
 His Arg Tyr Ala Cys Cys Val His Gly Met Ala Thr Phe Pro Gln Trp  
 65 70 75 80  
 His Arg Leu Tyr Thr Val Gln Phe Gln Asp Ala Leu Arg Arg His Gly  
 85 90 95  
 Ala Thr Val Gly Val Pro Tyr Trp Asp Trp Leu Arg Pro Gln Ser His  
 100 105 110  
 Leu Pro Glu Leu Val Thr Met Glu Thr Tyr His Asp Ile Trp Ser Asn  
 115 120 125  
 Arg Asp Phe Pro Asn Pro Phe Tyr Gln Ala Asn Ile Glu Phe Glu Gly  
 130 135 140  
 Glu Asn Ile Thr Thr Glu Arg Glu Val Ile Ala Asp Lys Leu Phe Val  
 145 150 155 160  
 Lys Gly Gly His Val Phe Asp Lys Leu Val Leu Gln Thr Ser His Pro  
 165 170 175  
 Ser Ala Glu Gln Glu Asn Tyr Cys Asp Phe Glu Ile Gln Phe Glu Ile  
 180 185 190  
 Leu His Asn Gly Val His Thr Trp Val Gly Gly Ser Arg Thr Tyr Ser  
 195 200 205  
 Ile Gly His Leu His Tyr Ala Phe Tyr Asp Pro Leu Phe Tyr Leu His  
 210 215 220  
 His Phe Gln Thr Asp Arg Ile Trp Ala Ile Trp Gln Glu Leu Gln Glu  
 225 230 235 240  
 Gln Arg Gly Leu Ser Gly Asp Glu Ala His Cys Ala Leu Glu Gln Met  
 245 250 255  
 Arg Glu Pro Leu Lys Pro Phe Ser Phe Gly Ala Pro Tyr Asn Trp Asn  
 260 265 270  
 Gln Leu Thr Gln Asp Phe Ser Arg Pro Glu Asp Thr Phe Asp Tyr Arg  
 275 280 285  
 Lys Phe Gly Tyr Glu Tyr Asp Asn Leu Glu Phe Leu Gly Met Ser Val  
 290 295 300

30

Ala Glu Leu Asp Gln Tyr Ile Ile Glu His Gln Glu Asn Asp Arg Val  
 305 310 315 320

Phe Ala Gly Phe Leu Leu Ser Gly Phe Gly Gly Ser Ala Ser Val Asn  
 325 330 335

Phe Gln Val Cys Arg Ala Asp Ser Thr Cys Gln Asp Ala Gly Tyr Phe  
 340 345 350

Thr Val Leu Gly Gly Ser Ala Glu Met Ala Trp Ala Phe Asp Arg Leu  
 355 360 365

Tyr Lys Tyr Asp Ile Thr Glu Thr Leu Glu Lys Met His Leu Arg Tyr  
 370 375 380

Asp Asp Asp Phe Thr Ile Ser Val Ser Leu Thr Ala Asn Asn Gly Thr  
 385 390 395 400

Val Leu Ser Ser Ser Leu Ile Pro Thr Pro Ser Val Ile Phe Gln Arg  
 405 410 415

Gly His

&lt;210&gt; 37

&lt;211&gt; 416

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 37

Arg Asp Ile Asn Thr Arg Ser Met Ser Pro Asn Arg Val Arg Arg Glu  
 1 5 10 15

Leu Ser Asp Leu Ser Ala Arg Asp Leu Ser Ser Leu Lys Ser Ala Leu  
 20 25 30

Arg Asp Leu Gln Glu Asp Asp Gly Pro Asn Gly Tyr Gln Ala Leu Ala  
 35 40 45

Ala Phe His Gly Leu Pro Ala Gly Cys His Asp Ser Arg Gly Asn Glu  
 50 55 60

Ile Ala Cys Cys Ile His Gly Met Pro Thr Phe Pro Gln Trp His Arg  
 65 70 75 80

Leu Tyr Thr Leu Gln Leu Glu Met Ala Leu Arg Arg His Gly Ser Ser  
 85 90 95

Val Ala Ile Pro Tyr Trp Asp Trp Thr Lys Pro Ile Ser Glu Leu Pro  
 100 105 110

Ser Leu Phe Thr Ser Pro Glu Tyr Tyr Asp Pro Trp His Asp Ala Val  
 115 120 125

31

Val Asn Asn Pro Phe Ser Lys Gly Phe Val Lys Phe Ala Asn Thr Tyr  
 130 135 140

Thr Val Arg Asp Pro Gln Glu Met Leu Phe Gln Leu Cys Glu His Gly  
 145 150 155 160

Glu Ser Ile Leu Tyr Glu Gln Thr Leu Leu Ala Leu Glu Gln Thr Asp  
 165 170 175

Tyr Cys Asp Phe Glu Val Gln Phe Glu Val Leu His Asn Val Ile His  
 180 185 190

Tyr Leu Val Gly Gly Arg Gln Thr Tyr Ala Leu Ser Ser Leu His Tyr  
 195 200 205

Ala Ser Tyr Asp Pro Phe Phe Phe Ile His His Ser Phe Val Asp Lys  
 210 215 220

Met Trp Val Val Trp Gln Ala Leu Gln Lys Arg Arg Lys Leu Pro Tyr  
 225 230 235 240

Lys Arg Ala Asp Cys Ala Val Asn Leu Met Thr Lys Pro Met Arg Pro  
 245 250 255

Phe Asp Ser Asp Met Asn Gln Asn Pro Phe Thr Lys Met His Ala Val  
 260 265 270

Pro Asn Thr Leu Tyr Asp Tyr Glu Thr Leu Tyr Tyr Ser Tyr Asp Asn  
 275 280 285

Leu Glu Ile Gly Gly Arg Asn Leu Asp Gln Leu Gln Ala Glu Ile Asp  
 290 295 300

Arg Ser Arg Ser His Asp Arg Val Phe Ala Gly Phe Leu Leu Arg Gly  
 305 310 315 320

Ile Gly Thr Ser Ala Asp Val Arg Phe Trp Ile Cys Arg Asn Glu Asn  
 325 330 335

Asp Cys His Arg Gly Gly Ile Ile Phe Ile Leu Gly Gly Ala Lys Glu  
 340 345 350

Met Pro Trp Ser Phe Asp Arg Asn Phe Lys Phe Asp Ile Thr His Val  
 355 360 365

Leu Glu Asn Ala Gly Ile Ser Pro Glu Asp Val Phe Asp Ala Glu Glu  
 370 375 380

Pro Phe Tyr Ile Lys Val Glu Ile His Ala Val Asn Lys Thr Met Ile  
 385 390 395 400

Pro Ser Ser Val Ile Pro Ala Pro Thr Ile Ile Tyr Ser Pro Gly Glu  
 405 410 415

<210> 38  
 <211> 402  
 <212> PRT  
 <213> *Haliotis tuberculata*

<400> 38

Gly Arg Ala Ala Asp Ser Ala His Ser Ala Asn Ile Ala Gly Ser Gly  
 1 5 10 15  
 Val Arg Lys Asp Val Thr Thr Leu Thr Val Ser Glu Thr Glu Asn Leu  
 20 25 30  
 Arg Gln Ala Leu Gln Gly Val Ile Asp Asp Thr Gly Pro Asn Gly Tyr  
 35 40 45  
 Gln Ala Ile Ala Ser Phe His Gly Ser Pro Pro Met Cys Glu Met Asn  
 50 55 60  
 Gly Arg Lys Val Ala Cys Cys Ala His Gly Met Ala Ser Phe Pro His  
 65 70 75 80  
 Trp His Arg Leu Tyr Val Lys Gln Met Glu Asp Ala Leu Ala Asp His  
 85 90 95  
 Gly Ser His Ile Gly Ile Pro Tyr Trp Asp Trp Thr Thr Ala Phe Thr  
 100 105 110  
 Glu Leu Pro Ala Leu Val Thr Asp Ser Glu Asn Asn Pro Phe His Glu  
 115 120 125  
 Gly Arg Ile Asp His Leu Gly Val Thr Thr Ser Arg Ser Pro Arg Asp  
 130 135 140  
 Met Leu Phe Asn Asp Pro Glu Gln Gly Ser Glu Ser Phe Phe Tyr Arg  
 145 150 155 160  
 Gln Val Leu Leu Ala Leu Glu Gln Thr Asp Tyr Cys Gln Phe Glu Val  
 165 170 175  
 Gln Phe Glu Leu Thr His Asn Ala Ile His Ser Trp Thr Gly Gly Arg  
 180 185 190  
 Ser Pro Tyr Gly Met Ser Thr Leu Glu Phe Thr Ala Tyr Asp Pro Leu  
 195 200 205  
 Phe Trp Leu His His Ser Asn Thr Asp Arg Ile Trp Ala Val Trp Gln  
 210 215 220  
 Ala Leu Gln Lys Tyr Arg Gly Leu Pro Tyr Asn Glu Ala His Cys Glu  
 225 230 235 240  
 Ile Gln Val Leu Lys Gln Pro Leu Arg Pro Phe Asn Asp Asp Ile Asn  
 245 250 255  
 His Asn Pro Ile Thr Lys Thr Asn Ala Arg Pro Ile Asp Ser Phe Asp  
 260 265 270



33

Tyr Glu Arg Phe Asn Tyr Gln Tyr Asp Thr Leu Ser Phe His Gly Lys  
 275 280 285  
 Ser Ile Pro Glu Leu Asn Asp Leu Leu Glu Glu Arg Lys Arg Glu Glu  
 290 295 300  
 Arg Thr Phe Ala Ala Phe Leu Leu Arg Gly Ile Gly Cys Ser Ala Asp  
 305 310 315 320  
 Val Val Phe Asp Ile Cys Arg Pro Asn Gly Asp Cys Val Phe Ala Gly  
 325 330 335  
 Thr Phe Ala Val Leu Gly Gly Glu Leu Glu Met Pro Trp Ser Phe Asp  
 340 345 350  
 Arg Leu Phe Arg Tyr Asp Ile Thr Arg Val Met Asn Gln Leu His Leu  
 355 360 365  
 Gln Tyr Asp Ser Asp Phe Ser Phe Arg Val Lys Leu Val Ala Thr Asn  
 370 375 380  
 Gly Thr Glu Leu Ser Ser Asp Leu Leu Lys Ser Pro Thr Ile Glu His  
 385 390 395 400  
 Glu Leu

&lt;210&gt; 39

&lt;211&gt; 515

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 39

Gly Ala His Arg Gly Pro Val Glu Glu Thr Glu Val Thr Arg Gln His  
 1 5 10 15  
 Thr Asp Gly Asn Ala His Phe His Arg Lys Glu Val Asp Ser Leu Ser  
 20 25 30  
 Leu Asp Glu Ala Asn Asn Leu Lys Asn Ala Leu Tyr Lys Leu Gln Asn  
 35 40 45  
 Asp His Ser Leu Thr Gly Tyr Glu Ala Ile Ser Gly Tyr His Gly Tyr  
 50 55 60  
 Pro Asn Leu Cys Pro Glu Glu Gly Asp Asp Lys Ile Pro Leu Leu Arg  
 65 70 75 80  
 Pro Arg Met Gly Ile Phe Pro Tyr Trp His Arg Leu Leu Thr Ile Gln  
 85 90 95  
 Leu Glu Arg Ala Leu Glu His Asn Gly Ala Leu Leu Gly Val Pro Tyr  
 100 105 110

34

Trp Asp Trp Asn Lys Asp Leu Ser Ser Leu Pro Ala Phe Phe Ser Asp  
 115 120 125  
 Ser Ser Asn Asn Asn Pro Tyr Phe Lys Tyr His Ile Ala Gly Val Gly  
 130 135 140  
 His Asp Thr Val Arg Glu Pro Thr Ser Leu Ile Tyr Asn Gln Pro Gln  
 145 150 155 160  
 Ile His Gly Tyr Asp Tyr Leu Tyr Tyr Leu Ala Leu Thr Thr Leu Glu  
 165 170 175  
 Glu Asn Asn Tyr Trp Asp Phe Glu Val Gln Tyr Glu Ile Leu His Asn  
 180 185 190  
 Ala Val His Ser Trp Leu Gly Gly Ser Gln Lys Tyr Ser Met Ser Thr  
 195 200 205  
 Leu Glu Tyr Ser Ala Phe Asp Pro Val Phe Met Ile Leu His Ser Gly  
 210 215 220  
 Leu Asp Arg Leu Trp Ile Ile Trp Gln Glu Leu Gln Lys Ile Arg Arg  
 225 230 235 240  
 Lys Pro Tyr Asn Phe Ala Lys Cys Ala Tyr His Met Met Glu Glu Pro  
 245 250 255  
 Leu Ala Pro Phe Ser Tyr Pro Ser Ile Asn Gln Asp Glu Phe Thr Arg  
 260 265 270  
 Ala Asn Ser Lys Pro Ser Thr Val Phe Asp Ser His Lys Phe Gly Tyr  
 275 280 285  
 His Tyr Asp Asn Leu Asn Val Arg Gly His Ser Ile Gln Glu Leu Asn  
 290 295 300  
 Thr Ile Ile Asn Asp Leu Arg Asn Thr Asp Arg Ile Tyr Ala Gly Phe  
 305 310 315 320  
 Val Leu Ser Gly Ile Gly Thr Ser Ala Ser Val Lys Ile Tyr Leu Arg  
 325 330 335  
 Thr Asp Asp Asn Asp Glu Glu Val Gly Thr Phe Thr Val Leu Gly Gly  
 340 345 350  
 Glu Arg Glu Met Pro Trp Ala Tyr Glu Arg Val Phe Lys Tyr Asp Ile  
 355 360 365  
 Thr Glu Val Ala Asp Arg Leu Lys Ile Lys Leu Trp Gly His Pro Leu  
 370 375 380  
 Thr Ser Gly Thr Gly Asp His Ile Leu Thr Asn Gly Ile Gly Gly Lys  
 385 390 395 400  
 Gln Glu Pro Thr Gln Ile Leu Ser Ser Ser Thr Asp Leu Pro Ile Met  
 405 410 415

35

Thr Thr Met Phe Leu Leu Ser Gln Xaa Gly Arg Asn Leu His Ile Pro  
 420 425 430

Pro Lys Val Val Val Lys Lys Gly Thr Arg Ile Glu Phe His Pro Val  
 435 440 445

Asp Asp Ser Val Thr Arg Pro Val Val Asp Leu Gly Ser Tyr Thr Ala  
 450 455 460

Leu Phe Asn Cys Val Val Pro Pro Phe Thr Tyr His Gly Phe Glu Leu  
 465 470 475 480

Asn His Val Tyr Ser Val Lys Pro Gly Asp Tyr Tyr Val Thr Gly Pro  
 485 490 495

Thr Arg Asp Leu Cys Gln Asn Ala Asp Val Arg Ile His Ile His Val  
 500 505 510

Glu Asp Glu  
 515

&lt;210&gt; 40

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; Megathura crenulata

&lt;400&gt; 40

Gly Leu Pro Tyr Trp Asp Trp Thr Glu Pro Met Thr His Ile Pro Gly  
 1 5 10 15

Leu Ala Gly Asn Lys Thr Tyr Val Asp Ser His Gly Ala Ser His Thr  
 20 25 30

Asn Pro Phe His Ser Ser Val Ile Ala Phe Glu Glu Asn Ala Pro His  
 35 40 45

Thr Lys Arg Gln Ile Asp Gln Arg Leu Phe Lys Pro Ala Thr Phe Gly  
 50 55 60

His His Thr Asp Leu Phe Asn Gln Ile Leu Tyr Ala Phe Glu Gln Glu  
 65 70 75 80

Asp Tyr Cys Asp Phe Glu Val Gln Phe Glu Ile Thr His Asn Thr Ile  
 85 90 95

His Ala Trp Thr Gly Gly Ser Glu His Phe Ser Met Ser Ser Leu His  
 100 105 110

Tyr Thr Ala Phe Asp Pro Leu Phe Tyr Phe His His Ser Asn Val Asp  
 115 120 125

Arg Leu Trp Ala Val Trp Gln Ala Leu Gln Met Arg Arg His Lys Pro  
 130 135 140

Tyr Arg Ala His Cys Ala Ile Ser Leu Glu His Met His Leu Lys Pro  
 145 150 155 160

[illegible]

```
<210> 41
<211> 414
<212> PRT
<213> Megathura crenulata
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```

<400> 41
Val Lys Phe Asp Lys Val Pro Arg Ser Arg Leu Ile Arg Lys Asn Val
  1             5             10             15
Asp Arg Leu Ser Pro Glu Glu Met Asn Glu Leu Arg Lys Ala Leu Ala
      20             25             30
Leu Leu Lys Glu Asp Lys Ser Ala Gly Gly Phe Gln Gln Leu Gly Ala
      35             40             45
Phe His Gly Glu Pro Lys Trp Cys Pro Ser Pro Glu Ala Ser Lys Lys
      50             55             60
Phe Ala Cys Cys Val His Gly Met Ser Val Phe Pro His Trp His Arg
      65             70             75             80

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37

Leu Leu Thr Val Gln Ser Glu Asn Ala Leu Arg Arg His Gly Tyr Asp  
85 90 95

Gly Ala Leu Pro Tyr Trp Asp Trp Thr Ser Pro Leu Asn His Leu Pro  
100 105 110

Glu Leu Ala Asp His Glu Lys Tyr Val Asp Pro Glu Asp Gly Val Glu  
115 120 125

Lys His Asn Pro Trp Phe Asp Gly His Ile Asp Thr Val Asp Lys Thr  
130 135 140

Thr Thr Arg Ser Val Gln Asn Lys Leu Phe Glu Gln Pro Glu Phe Gly  
145 150 155 160

His Tyr Thr Ser Ile Ala Lys Gln Val Leu Leu Ala Leu Glu Gln Asp  
165 170 175

Asn Phe Cys Asp Phe Glu Ile Gln Tyr Glu Ile Ala His Asn Tyr Ile  
180 185 190

His Ala Leu Val Gly Gly Ala Gln Pro Tyr Gly Met Ala Ser Leu Arg  
195 200 205

Tyr Thr Ala Phe Asp Pro Leu Phe Tyr Leu His His Ser Asn Thr Asp  
210 215 220

Arg Ile Trp Ala Ile Trp Gln Ala Leu Gln Lys Tyr Arg Gly Lys Pro  
225 230 235 240

Tyr Asn Val Ala Asn Cys Ala Val Thr Ser Met Arg Glu Pro Leu Gln  
245 250 255

Pro Phe Gly Leu Ser Ala Asn Ile Asn Thr Asp His Val Thr Lys Glu  
260 265 270

His Ser Val Pro Phe Asn Val Phe Asp Tyr Lys Thr Asn Phe Asn Tyr  
275 280 285

Glu Tyr Asp Thr Leu Glu Phe Asn Gly Leu Ser Ile Ser Gln Leu Asn  
290 295 300

Lys Lys Leu Glu Ala Ile Lys Ser Gln Asp Arg Phe Phe Ala Gly Phe  
305 310 315 320

Leu Leu Ser Gly Phe Lys Lys Ser Ser Leu Val Lys Phe Asn Ile Cys  
325 330 335

Thr Asp Ser Ser Asn Cys His Pro Ala Gly Glu Phe Tyr Leu Leu Gly  
340 345 350

Asp Glu Asn Glu Met Pro Trp Ala Tyr Asp Arg Val Phe Lys Tyr Asp  
355 360 365

Ile Thr Glu Lys Leu His Asp Leu Lys Leu His Ala Glu Asp His Phe  
370 375 380

38

Tyr Ile Asp Tyr Glu Val Phe Asp Leu Lys Pro Ala Ser Leu Gly Lys  
385 390 395 400

Asp Leu Phe Lys Gln Pro Ser Val Ile His Glu Pro Arg Ile  
405 410

&lt;210&gt; 42

&lt;211&gt; 411

&lt;212&gt; PRT

&lt;213&gt; Megathura crenulata

&lt;400&gt; 42

Gly His His Glu Gly Glu Val Tyr Gln Ala Glu Val Thr Ser Ala Asn  
1 5 10 15

Arg Ile Arg Lys Asn Ile Glu Asn Leu Ser Leu Gly Glu Leu Glu Ser  
20 25 30

Leu Arg Ala Ala Phe Leu Glu Ile Glu Asn Asp Gly Thr Tyr Glu Ser  
35 40 45

Ile Ala Lys Phe His Gly Ser Pro Gly Leu Cys Gln Leu Asn Gly Asn  
50 55 60

Pro Ile Ser Cys Cys Val His Gly Met Pro Thr Phe Pro His Trp His  
65 70 75 80

Arg Leu Tyr Val Val Val Val Glu Asn Ala Leu Leu Lys Lys Gly Ser  
85 90 95

Ser Val Ala Val Pro Tyr Trp Asp Trp Thr Lys Arg Ile Glu His Leu  
100 105 110

Pro His Leu Ile Ser Asp Ala Thr Tyr Tyr Asn Ser Arg Gln His His  
115 120 125

Tyr Glu Thr Asn Pro Phe His His Gly Lys Ile Thr His Glu Asn Glu  
130 135 140

Ile Thr Thr Arg Asp Pro Lys Asp Ser Leu Phe His Ser Asp Tyr Phe  
145 150 155 160

Tyr Glu Gln Val Leu Tyr Ala Leu Glu Gln Asp Asn Phe Cys Asp Phe  
165 170 175

Glu Ile Gln Leu Glu Ile Leu His Asn Ala Leu His Ser Leu Leu Gly  
180 185 190

Gly Lys Gly Lys Tyr Ser Met Ser Asn Leu Asp Tyr Ala Ala Phe Asp  
195 200 205

Pro Val Phe Phe Leu His His Ala Thr Thr Asp Arg Ile Trp Ala Ile  
210 215 220

Trp Gln Asp Leu Gln Arg Phe Arg Lys Arg Pro Tyr Arg Glu Ala Asn  
225 230 235 240

```
<210> 43
<211> 111
<212> PRT
<213> Megathura crenulata
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<400> 43

Asp Ser Ala His Thr Asp Asp Gly His Thr Glu Pro Val Met Ile Arg  
1 5 10 15

Lys Asp Ile Thr Gln Leu Asp Lys Arg Gln Gln Leu Ser Leu Val Lys  
20 25 30

Ala Leu Glu Ser Met Lys Ala Asp His Ser Ser Asp Gly Phe Gln Ala  
35 40 45

Ile Ala Ser Phe His Ala Leu Pro Pro Leu Cys Pro Ser Pro Ala Ala  
50 55 60

Ser Lys Arg Phe Ala Cys Cys Val His Gly Met Pro Thr Phe Pro Gln  
65 70 75 80

**ERSATZBLATT (REGEL 26)**



Gly His Asp Lys Tyr Lys Val Gly Ser Phe Val Val Leu Gly Gly Ser  
245 250 255

Lys Glu Met Lys Trp Gly Phe Asp Arg Met Tyr Lys Tyr Glu Ile Thr  
260 265 270

Glu Ala Leu Lys Thr Leu Asn Val Ala Val Asp Asp Gly Phe Ser Ile  
275 280 285

Thr Val Glu Ile Thr Asp Val Asp Gly Ser Pro Pro Ser Ala Asp Leu  
290 295 300

Ile Pro Pro Pro Ala Ile Ile Phe Glu Arg Gly His Ala  
305 310 315

<210> 45  
<211> 411  
<212> PRT  
<213> Megathura crenulata

<400> 45

Asp Ala Lys Asp Phe Gly His Ser Arg Lys Ile Arg Lys Ala Val Asp  
1 5 10 15

Ser Leu Thr Val Glu Glu Gln Thr Ser Leu Arg Arg Ala Met Ala Asp  
20 25 30

Leu Gln Asp Asp Lys Thr Ser Gly Gly Phe Gln Gln Ile Ala Ala Phe  
35 40 45

His Gly Glu Pro Lys Trp Cys Pro Ser Pro Glu Ala Glu Lys Lys Phe  
50 55 60

Ala Cys Cys Val His Gly Met Ala Val Phe Pro His Trp His Arg Leu  
65 70 75 80

Leu Thr Val Gln Gly Glu Asn Ala Leu Arg Lys His Gly Phe Thr Gly  
85 90 95

Gly Leu Pro Tyr Trp Asp Trp Thr Arg Ser Met Ser Ala Leu Pro His  
100 105 110

Phe Val Ala Asp Pro Thr Tyr Asn Asp Ala Ile Ser Ser Gln Glu Glu  
115 120 125

Asp Asn Pro Trp His His Gly His Ile Asp Ser Val Gly His Asp Thr  
130 135 140

Thr Arg Asp Val Arg Asp Asp Leu Tyr Gln Ser Pro Gly Phe Gly His  
145 150 155 160

Tyr Thr Asp Ile Ala Gln Gln Val Leu Leu Ala Phe Glu Gln Asp Ser  
165 170 175

42

Phe Cys Asp Phe Glu Val Gln Phe Glu Ile Ala His Asn Phe Ile His  
 180 185 190  
 Ala Leu Ile Gly Gly Asn Glu Pro Tyr Ser Met Ser Ser Leu Arg Tyr  
 195 200 205  
 Thr Thr Tyr Asp Pro Ile Phe Phe Leu His His Ser Ser Thr Asp Arg  
 210 215 220  
 Leu Trp Ala Ile Trp Gln Ala Leu Gln Lys Tyr Arg Gly Lys Pro Tyr  
 225 230 235 240  
 Asn Thr Ala Asn Cys Ala Ile Ala Ser Met Arg Lys Pro Leu Gln Pro  
 245 250 255  
 Phe Gly Leu Asp Ser Val Ile Asn Pro Asp Asp Glu Thr Arg Glu His  
 260 265 270  
 Ser Val Pro Phe Arg Val Phe Asp Tyr Lys Asn Asn Phe Asp Tyr Glu  
 275 280 285  
 Tyr Glu Ser Leu Ala Phe Asn Gly Leu Ser Ile Ala Gln Leu Asp Arg  
 290 295 300  
 Glu Leu Gln Arg Arg Lys Ser His Asp Arg Val Phe Ala Gly Phe Leu  
 305 310 315 320  
 Leu His Glu Ile Gly Gln Ser Ala Lys His Asn Val Ser Asp Cys Asp  
 325 330 335  
 His Tyr Ala Gly Glu Phe Tyr Ile Leu Gly Asp Glu Ala Glu Met Pro  
 340 345 350  
 Trp Arg Tyr Asp Arg Val Tyr Lys Tyr Glu Ile Thr Gln Gln Leu His  
 355 360 365  
 Asp Leu Asp Leu His Val Gly Asp Asn Phe Phe Leu Lys Tyr Glu Ala  
 370 375 380  
 Phe Asp Leu Asn Gly Gly Ser Leu Gly Gly Ser Ile Phe Ser Gln Pro  
 385 390 395 400  
 Ser Val Ile Phe Glu Pro Ala Ala Gly Met Phe  
 405 410

&lt;210&gt; 46

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; Megathura crenulata

&lt;400&gt; 46

Gly Ser His Gln Ala Asp Glu Tyr Arg Glu Ala Val Thr Ser Ala Ser  
 1 5 10 15

His Ile Arg Lys Asn Ile Arg Asp Leu Ser Glu Gly Glu Ile Glu Ser  
 20 25 30

43

Ile Arg Ser Ala Phe Leu Gln Ile Gln Lys Glu Gly Ile Tyr Glu Asn  
 35 40 45  
 Ile Ala Lys Phe His Gly Lys Pro Gly Leu Cys Glu His Asp Gly His  
 50 55 60  
 Pro Val Ala Cys Cys Val His Gly Met Pro Thr Phe Pro His Trp His  
 65 70 75 80  
 Arg Leu Tyr Val Leu Gln Val Glu Asn Ala Leu Leu Glu Arg Gly Ser  
 85 90 95  
 Ala Val Ala Val Pro Tyr Trp Asp Trp Thr Leu Pro Arg  
 100 105

<210> 47  
 <211> 329  
 <212> PRT  
 <213> Megathura crenulata

<400> 47  
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 20 25 30  
 Trp Thr Ser Ala Phe Ser His Leu Pro Ala Leu Val Thr Asp His Glu  
 35 40 45  
 Asn Asn Pro Phe His His Gly His Ile Gly His Leu Asn Val Asp Thr  
 50 55 60  
 Ser Arg Ser Pro Arg Asp Met Leu Phe Asn Asp Pro Glu Gln Gly Ser  
 65 70 75 80  
 Glu Ser Phe Phe Tyr Arg Gln Val Leu Leu Thr Leu Glu Gln Thr Asp  
 85 90 95  
 Phe Cys Gln Phe Glu Val Gln Phe Glu Leu Thr His Asn Ala Ile His  
 100 105 110  
 Ser Trp Thr Gly Gly His Thr Pro Tyr Gly Met Ser Ser Leu Glu Tyr  
 115 120 125  
 Thr Ala Tyr Asp Pro Leu Phe Tyr Leu His His Ser Asn Thr Asp Arg  
 130 135 140  
 Ile Trp Ala Ile Trp Gln Ala Leu Gln Lys Tyr Arg Gly Leu Pro Tyr  
 145 150 155 160  
 Asn Ala Ala His Cys Asp Ile Gln Val Leu Lys Gln Pro Leu Lys Pro  
 165 170 175

44

Phe Ser Glu Ser Arg Asn Pro Asn Pro Val Thr Arg Ala Asn Ser Arg  
 180 185 190  
 Ala Val Asp Ser Phe Asp Tyr Glu Lys Phe Asn Tyr Gln Tyr Asp Thr  
 195 200 205  
 Leu Thr Phe His Gly Leu Ser Ile Pro Glu Leu Asp Ala Met Leu Gln  
 210 215 220  
 Glu Arg Lys Lys Glu Glu Arg Thr Phe Ala Ala Phe Leu Leu His Gly  
 225 230 235 240  
 Phe Gly Ala Ser Ala Asp Val Ser Phe Asp Val Cys Thr Pro Asp Gly  
 245 250 255  
 His Cys Ala Phe Ala Gly Thr Phe Ala Val Leu Gly Gly Glu Leu Glu  
 260 265 270  
 Met Pro Trp Ser Phe Glu Arg Leu Phe Arg Tyr Asp Ile Thr Lys Val  
 275 280 285  
 Leu Lys Gln Met Asn Leu His Tyr Asp Ser Glu Phe His Phe Glu Leu  
 290 295 300  
 Lys Ile Val Gly Thr Asp Gly Thr Glu Leu Pro Ser Asp Arg Ile Lys  
 305 310 315 320  
 Ser Pro Thr Ile Glu His His Gly Gly  
 325

&lt;210&gt; 48

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; Megathura crenulata

&lt;400&gt; 48

Gly His Asp His Ser Glu Arg His Asp Gly Phe Phe Arg Lys Glu Val  
 1 5 10 15  
 Gly Ser Leu Ser Leu Asp Glu Ala Asn Asp Leu Lys Asn Ala Leu Tyr  
 20 25 30  
 Lys Leu Gln Asn Asp Gln Gly Pro Asn Gly Tyr Glu Ser Ile Ala Gly  
 35 40 45  
 Tyr His Gly Tyr Pro Phe Leu Cys Pro Glu His Gly Glu Asp Gln Tyr  
 50 55 60  
 Ala Cys Cys Val His Gly Met Pro Val Phe Pro His Trp His Arg Leu  
 65 70 75 80  
 His Thr Ile Gln Phe Glu Arg Ala Leu Lys Glu His Gly Ser His Leu  
 85 90 95  
 Gly Leu Pro Tyr Trp Asp Trp  
 100

<210> 49  
 <211> 1269  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 49  
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 cagcgtcgtg tgactacaag ggacggaaga tcgcctgctg tgtccacggg atgccagtt 240  
 tccccctctg gcacagggca tatgtcgtcc aagccgagcg ggcaactgtg tccaaacgga 300  
 agactgtcgg aatgccttac tgggactgga cgcaaacgct gactcactta ccactctctg 360  
 tgactgaacc catctacatt gacagtaaag gtggaaaggc tcaaaccaac tactggtacc 420  
 gcggcgagat agcgttcac aataagaaga ctgcgcgagc tgtagatgat cgcctattcg 480  
 agaaggtgga gcctggtcac tacacacatc ttatggagac tgcctcgcac gctctcgaac 540  
 aggacgaatt ctgtaaattt gaaatccagt tcgagttggc tcataatgct atccattact 600  
 tggttggcgg taaatttgaa tattcaatgt caaacttgga atacacctcc tacgacccca 660  
 tcttcttctt ccaccactcc aacgttgacc gcctcttcgc catctggcag cgtcttcagg 720  
 aactgcgagg aaagaatccc aatgcaatgg actgtgcaca tgaactcgct caccagcaac 780  
 tccaaccctt caacagggac agcaatccag tccagctcac aaaggaccac tcgacacctg 840  
 ctgacctctt tgattacaaa caacttgat acagctacga cagcttaaac ctgaatggaa 900  
 tgacgccaga acagctgaaa acagaactag acgaacgcca ctccaaagaa cgtgcgtttg 960  
 caagcttccg actcagtggt tttgggggtt ctgccaacgt tgtgtgtctat gcattgtgtc 1020  
 ctgatgatga tccacgcagt gatgactact gcgagaaagc aggcgacttc ttcattcttg 1080  
 ggggtcaaaag cgaaatgccg tggagattct acagaccctt cttctatgat gtaactgaag 1140  
 gggtacatca ccttggagtc ccgctaagt gccaactacta tgtgaaaaca gaactcttca 1200  
 gcgtgaatgg cacagcactt tcacctgatc ttcttctca accaactggt gcctaccgac 1260  
 ctgggaaaag 1269

<210> 50  
 <211> 569  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 50  
 ggtcttccgt actgggactg gacgcagcat ctgactcaac tcccagatct ggtgtcagac 60  
 cccttgtttg tcgacccgga aggaggaaag gcccatgaca acgcatggta tcgtggaaac 120  
 atcaagtttg agaataagaa gactgcaaga gctgttgacg atcgctttt cgagaaggtt 180  
 ggaccaggag agaataaccg actctttgaa ggaattctcg atgctcttga acaggatgaa 240  
 ttctgcaact tcgagatcca gtttgagttg gctcacaacg ctatccacta cctggttggc 300  
 ggccgtcaca cgtactccat gtctcatctc gagttacacc ctctacgac cccctcttct 360  
 tcctccatca ctccaacacc ggaccgcatc ttccgcatct gggaacgtct tcagggtactc 420  
 agaggaaagg accccaacac cgccgactgc gcacacaacc tcatccatga gcccatggaa 480  
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 agctttgatt atgcccacct tggctacca 569

<210> 51  
 <211> 1246  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 51  
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 catctgacac gcgaggaggt gtacgagctg cgcagagcta tggagagatt ccaggccgac 120  
 acatccgttg atgggtacca ggctacggtt gagtatcacg gcttacctgc tcgatgtcca 180

46

ttccccgagg	ccacaaatag	gttcgcctgt	tgcattccacg	gcatggcgac	attccctcat	240
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gggggtcccct	actgggactg	gactcagcct	atggcgcatc	tcccaggact	tgcagacaac	360
gccacctata	gagatcccat	cagcggggac	agcagacaca	accccttcca	cgatgttgaa	420
gttgccctttg	aaaatggacg	tacagaacgt	caccagata	gtagattgtt	tgaacaacct	480
ttatttggca	aacatacgcg	tctcttcgac	agtatagtct	atgcttttga	gcaggaggac	540
ttctgcgatt	ttgaagttca	atctgagatg	accataata	atattcacgc	ctggattggt	600
ggcggcgaga	agtattccat	gtcttctcta	cactacacag	ccttcgacct	tatcttctac	660
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aacaggcctt	acaaggctca	ttgtgcttgg	tctgaggaac	gccagcctct	caaaccttct	780
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gtttacgact	acgaaggagt	ccttggctat	acttatgatg	acctcaactt	cgggggcatg	900
gacctgggtc	agcttgagga	atacatccag	aggcagagac	agagagacag	gacctttgct	960
ggtttctttc	tgtcacatat	tggtacatca	gcgaatgttg	aatcatttat	agaccatggg	1020
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ggatttgacc	gtttgtacaa	atatgagatt	acagatgaac	tgaggcaact	taatctccgt	1140
gctgatgatg	ttttcagcat	ctctgttaaa	gtaactgatg	ttgatggcag	tgagctgtcc	1200
tctgaactca	tcccatctgc	tgctatcatc	ttcgaacgaa	gccata		1246

&lt;210&gt; 52

&lt;211&gt; 1242

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 52

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attttaaaga	tctgtcaaaag	ggagaagtag	agagcctaag	gtctgccttc	ctgcaacttc	120
agaacgacgg	agtctatgag	aatattgccca	agttccacgg	caagcctggg	ttgtgtgatg	180
ataacggctcg	caaggttgcc	tggtgtgtcc	atggaatgcc	caccttcccc	cagtggcaca	240
ggctctatgt	cctccaggtg	gagaatgctt	tgctggagag	aggatctgcc	gtctctgtgc	300
catactggga	ctggactgaa	acatttacag	agctgccatc	tttgattgct	gaggctacct	360
atttcaattc	ccgtcaacaa	acgtttgacc	ctaatecttt	cttcagaggt	aaaatcagtt	420
ttgagaatgc	tggtacaaca	cgtgatcccc	agcctgagct	gtacgttaac	aggactact	480
acaaaaacgt	catgttggtt	tttgaacagg	acaactactg	cgacttcgag	atacagtttg	540
agatggttca	caatgttctc	catgcttggc	ttggtggaag	agctacttat	tctatttctt	600
ctcttgatta	ttctgcattc	gaccctgtgt	ttttccttca	ccatgcgaac	acagatagat	660
tgtgggccat	ctggcaggag	ctgcagaggt	acaggaagaa	gccatacaat	gaagcggatt	720
gtgccattaa	cctaattgcg	aaacctctac	atcccttcga	caacagtgat	ctcaatcatg	780
atcctgtaac	ctttaaatac	tcaaaaacca	ctgatggctt	tgactaccag	aacaactttg	840
gatacaagta	tgacaacctt	gagttcaatc	atttcagtat	tcccaggctt	gaagaaatca	900
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catccgcaac	tgttgagata	ttcgtctgtg	tccctaccac	cagcgggtgag	caaaactgtg	1020
aaaacaaagc	cggaaacattt	gccgtactcg	gaggagaaac	agagatggcg	tttcattttg	1080
acagactcta	caggtttgac	atcagtgaac	cactgaggga	cctcggcata	cagctggaca	1140
gccatgactt	tgacctcagc	atcaagattc	aaggagttaa	tggatcctac	cttgatccac	1200
acatcctgcc	agagccatcc	ttgatttttg	tgctgtgttc	aa		1242

&lt;210&gt; 53

&lt;211&gt; 1257

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 53

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gcctgacaac	caggagagact	gcattctctga	tccatgctct	gaaaagtatg	caggaagacc	120
attcacctga	cgggttccaa	gccattgctt	ctttccatgc	tctgccacca	ctctgccctt	180
caccatctgc	agctcaccgt	tatgcttgct	gtgtccacgg	catggctaca	tttcccagct	240

E R S A T Z B L A T T (REGEL 26)

47

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ggcacagatt gtacactgta cagttccagg atgcactgag gagacatgga gctacggtag 300
gtgtaccgta ttgggattgg ctgcgaccgc agtctcacct accagagctt gtcaccatgg 360
agacatacca tgatatttgg agtaacagag atttcccaa tcctttctac caagccaata 420
ttgagtttga aggagaaaac attacaacag agagagaagt cattgcagac aaactttttg 480
tcaaaggtgg acacgttttt gataaactgg ttcttcaaac aagccatcct agcgctgagc 540
aggaaaacta ctgtgacttt gagattcagt ttgaaattct tcacaacggc gttcacacgt 600
gggtcggagg cagtcgtacc tactctatcg gacatcttca ttacgcattc tacgaccctc 660
ttttctacct tcaccatttc cagacagacc gtatttgggc aatctggcaa gaactccagg 720
aacagagagg gctctcgggt gatgaggctc actgtgctct cgagcaaag agagaaccat 780
tgaagccttt cagcttcggc gctccttata actggaatca gctcacacag gatttctccc 840
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tggaagtgtc agttgctgaa ctggatcaat acattattga acatcaagaa aatgatagag 960
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tgacacctcg atatgatgat gacttcacaa tctctgtcag tctgaccgcc aacaacggaa 1200
ctgtcctgag cagcagtcta atcccaacac cgagtgtcat attccagcgg ggacatc 1257

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&lt;210&gt; 54

&lt;211&gt; 1257

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 54

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attctgcccc cacagatgat ggacacactg aaccagtgat gattcgcaa gatatcacac 60
aattggacaa gcgtcaacaa ctgtcactgg tgaagccct cgagtccatg aaagccgacc 120
attcatctga tgggttccag gcaatcgctt ccttccatgc tcttctctct ctttgtccat 180
caccagctgc ttcaaagagg ttgctgtgct gcgtccatgg catggcaacg tcccacaaat 240
ggcaccgtct gtacacagtc caattccaag attctctcag aaaacatggg gcagtcgttg 300
gacttccgta ctgggactgg accctacctc gttctgaatt accagagctc ctgaccgtct 360
caactattca tgaccgggag acaggcagag atataccaaa tccatttatt ggttctaaaa 420
tagagtttga aggagaaaac gtacatacta aaagagatat caatagggat cgtctcttcc 480
agggatcaac aaaaacacat cataactggg ttattgagca agcactgctt gctcttgaac 540
aaaccaacta ctgcgacttc gaggttcagt ttgaaattat gcataatggg gttcatacct 600
gggttggagg caaggagccc tatggaattg gccatctgca ttatgcttcc tatgatccac 660
ttttctacat ccatcactcc caaactgatc gtatttgggc tatatggcaa tcgttgacgc 720
gtttcagagg actttctgga tctgaggcta actgtgctgt aaatctcatg aaaactcctc 780
tgaagccttt cagcttttga gcaccatata atcttaatga tcacacgcag gatttctcaa 840
agcctgaaga tacattcgac taccaaaagt ttggatacat atatgacact ctggaatttg 900
cagggtggtc aattcgtggc attgaccata ttgtccgtaa caggcaggaa cattcaaggg 960
tctttgccgg attcttgctt gaaggatttg gcacctctgc cactgtcgat ttccaggtct 1020
gtcgcacagc ggggagactgt gaagatgcag ggtacttcac cgtgttggga ggtgaaaaag 1080
aatgccttg ggcctttgat cggctttaca agtacgacat aacagaaacc ttagacaaga 1140
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&lt;210&gt; 55

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 55

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cagatggttt tgctgccatt gcacccctcc atggtctgcc tgccaaatgt aatgacagcc 180
acaataacga ggtggcatgc tgtatccatg gaatgcctac attccccac tggcacagac 240
tctacacctt ccaatttgag caagctctaa gaagacatgg ctctagtgtg gcagtaccct 300

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48

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actgggactg gacaaagcca atacataata ttccacatct gttcacagac aaagaatact 360
acgatgtctg gagaaataaa gtaatgccaa atccatttgc ccgaggggat gtcccctcac 420
acgatacata cacggtaaga gacgtccaag aaggcctgtt ccacctgaca tcaacgggtg 480
aacactcagc gcttctgaat caagctcttt tggcgctgga acagcacgac tactgcgatt 540
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tccatccctc tgaaccattc ttcatcaagg tgtcagtgc agccgtcaac ggaacagttc 1200
ttccggcttc aatcctgcat gcaccaacca ttatctatga acctggtctc ggtg 1254

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&lt;210&gt; 56

&lt;211&gt; 509

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 56

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acacacttac cactgcagag gtggacaatc tcaaagatgc catgagagcc gtcattggcag 120
accacgggcc aaatggatac caggctatag cagcgtttcca tggaaaccca ccaatgtgcc 180
ctatgccaga tggaaagaat tactcgtgtt gtacacatgg catggctact ttccccact 240
ggcacagact gtacacaaaa cagatggaag atgccttgac cgcccatggt gccagagtcg 300
gccttcttta ctgggacggg acaactgcct ttacagcttt gccaaacttt gtacagatg 360
aagaggacaa tcctttccat catggtcaca tagactatct gggagtggat acaactcggg 420
cgccccgaga caagttgttc aatgatccag agcgaggatc agaatcgttc ttctacaggc 480
aggttctctt ggctttggag cagacagat 509

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&lt;210&gt; 57

&lt;211&gt; 943

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 57

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gtttatgact atgtgggagt tttgcaactat cgatatgatg accttcagtt tggcggtatg 600
accatgtcag aacttgagga atatattcac aagcagacac aacatgatag aacctttgca 660
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tggggctttg atagaatgta caagtatgag atcactgagg ctctgaagac gctgaatgtt 840
gcagtggatg atgggttcag cattactgtt gagatcaccg atgttgatgg atctccccca 900
tctgcagatc tcattccacc tctgctata atctttgaac gtg 943

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<210> 58  
 <211> 1248  
 <212> DNA  
 <213> Megathura crenulata

<400> 58  
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 ggggtttcca gcagattgca gcattccacg gagaacaaaa atggtgtcca agccccgaag 180  
 cggagaaaaa atttgcatgc tgtgttcatg gaatggctgt tttccctcac tggcacagat 240  
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 actgggactg gactcgatca atgagcgccc ttccacattt tgttgctgat cctacttaca 360  
 atgatgctat ttccagccag gaagaagata acccatggca tcatggtcac atagactctg 420  
 ttgggcatga tactacaaga gatgtgcgtg atgatcttta tcaatctcct ggtttcgggc 480  
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 catacagtat gtcacttttg aggtatacta catacgatec aatcttcttc ttgcaccgct 660  
 ccaatacaga ccgactttgg gccatttggc aagctttgca aaaataccgg gggaaccat 720  
 acaacactgc aaactgtgcc attgcatcca tgagaaaacc acttcagcca tttggtcttg 780  
 atagtgtcat aaatccagat gacgaaactc gtgaacattc ggttccttcc cgagtcttcg 840  
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 ctgactgtga ccattatgct ggagaattct acattttggg agatgaagct gagatgcctt 1080  
 ggaggtatga ccgtgtgtac aagtacgaga taacacagca gctgcacgat ttagatctac 1140  
 atgttgagaa taatttcttc cttaaataatg aagcctttga tctgaatggc ggaagtcttg 1200  
 gtggaagtat cttttctcag ccttcggtga ttttcgagcc agctgcag 1248

<210> 59  
 <211> 1257  
 <212> DNA  
 <213> Megathura crenulata

<400> 59  
 gttcacacca ggctgatgaa tatcgtgagg cagtaacaag cgctagccac ataagaaaaa 60  
 atatccggga cctctcagag ggagaaattg agagcatcag atctgctttc ctccaaattc 120  
 aaaaagaggg tatatatgaa aacattgcaa agttccatgg aaaaccagga ctttgtgaac 180  
 atgatggaca tcctgttgct tgttgtgtcc atggcatgcc cacctttccc cactggcaca 240  
 gactgtacgt tcttcaggtg gagaatgcgc tcttagaacg aggggtctgca gttgctgttc 300  
 cttactggga ctggaccgag aaagctgact ctctgccatc attaatcaat gatgcaactt 360  
 atttcaattc acgatcccag acctttgatc ctaatccttt cttcagggga catattgcct 420  
 tcgagaatgc tgtgacgtcc agagatcctc agccagaact atgggacaat aaggacttct 480  
 acgagaatgt catgctggct cttgagcaag acaacttctg tgactttgag attcagcttg 540  
 agctgataca caacgccctt cattctagac ttggaggaag ggctaaatac tccctttcgt 600  
 ctcttgatta taccgcattt gatcctgtat ttttccttca ccatgcaaac gttgacagaa 660  
 tctgggccat ctggcaggac ttgcagagat atagaaagaa accatacaat gaggctgact 720  
 gcgcagtcaa cgagatgcgt aaacctcttc aaccatttaa taaccagaa ctttaacagt 780  
 attccatgac gcttaaacac aacctcccac aagacagttt tgattatcaa aaccgcttca 840  
 ggtaccaata tgataacctt caatttaacc acttcagcat acaaaaagcta gaccaaacta 900  
 ttcaggctag aaaacaacac gacagagttt ttgctggcct tattcttcac aacattggga 960  
 catctgtctg ttagatattt tatatttgcg ttgaacaagg aggagaacaa aactgcaaga 1020  
 caaaggcggg ttccttcacg attctggggg gagaaacaga aatgccattc cactttgacc 1080  
 gcttgataca atttgacata acgtctgctc tgcataaact tgggtgttccc ttggacggac 1140  
 atggattcga catcaaagtt gacgtcagag ctgtcaatgg atcgcactct gatcaacaca 1200  
 tcctcaacga accgagtctg ctttttgttc ctggtgaacg taagaatata tattatg 1257

<210> 60  
 <211> 1239  
 <212> DNA  
 <213> Megathura crenulata

<400> 60  
 atgggctttc acaacataat cttgtgcgaa aagaagtaag ctctcttaca acactggaga 60  
 aacatttttt gaggaagct ctcaagaaca tgcaagcaga tgattctcca gacggatatc 120  
 aagctattgc ttctttccac gctttgcctc ctctttgtcc aagtccatct gctgcacata 180  
 gacacgcttg ttgcctccat ggtatggcta ccttccctca gtggcacaga ctctacacag 240  
 ttcagttcga agattctttg aaacgacatg gttctattgt cggacttcca tattgggatt 300  
 ggctgaaacc gcagtctgca ctccctgatt tgggtgacaca ggagacatac gagcacctgt 360  
 tttcacacaa aaccttccca aatccgttcc tcaaggcaaa tatagaattt gagggagagg 420  
 gagnaacaac agagagggat gttgatgctg aacacctctt tgcaaaaagga aatctgggtt 480  
 acaacaactg gttttgcaat caggcactat atgcactaga acaagaaaat tactgtgact 540  
 ttgaaataca gttcgaaatt ttgcataatg gaattcattc atgggttgga ggatcaaaga 600  
 cccattcaat aggtcatctt cattacgcat catacgatcc actgttctat atccaccatt 660  
 cgagacaga tcgcatttgg gctatctggc aagctctcca ggagcacaga ggtctttcag 720  
 ggaaggaagc aactgcgcc ctggagcaaa tgaaagacc tctcaaacct ttcagctttg 780  
 gaagtcctta taatttgaac aaacgcactc aagagttctc caagcctgaa gacacatttg 840  
 attatcaccg attcgggtat gagtatgatt cctcgaatt tgttgcatg tctgtttcaa 900  
 gtttacataa ctatataaaa caacaacagg aagctgatag agtcttcgca ggattccttc 960  
 ttaaaggatt tggacaatca gcatccgtat cgtttgatat ctgcagacca gaccagagtt 1020  
 gccaagaagc tggatacttc tcagttctcg gtggaagtcc agaaatgccg tggcagtttg 1080  
 acaggcttta caagtacgac attacaaaaa cggtgaaaga catgaaactg cgatacgatg 1140  
 acacatttac catcaagggt cacaataaagg atatagctgg agctgagttg gacagcgatc 1200  
 tgattccaac tccttctgtt ctcttgaag aaggaaaagc 1239

<210> 61  
 <211> 1251  
 <212> DNA  
 <213> Haliotis tuberculata

<400> 61  
 atgggatcaa tgtacgtcac gttggctgta atcggattcg tatggaacta tctgaactca 60  
 ccgagagaga tctcgccagc ctgaaatctg caatgaggtc tctacaagct gacgatgggg 120  
 tgaacgggta tcaagccatt gcatcattcc acggctctcc ggcttcttgt catgatgatg 180  
 agggacatga gattgcctgt tgtatccacg gaatgccagt attcccacac tggcacaggc 240  
 tttacacct gcaaattggac atggctctgt tatctcacgg atctgctgtt gctattccat 300  
 actgggactg gaccaaacct atcagcaaac tgcctgatct cttcaccagc cctgaatatt 360  
 acgatccttg gagggatgca gttgtcaata atccatttgc taaaggctac attaaatccg 420  
 aggacgctta cacggtttag gatcctcagg acattttgta ccacttgcag gacgaaacgg 480  
 gaacatctgt tttgttagat caaactcttt tagccttaga gcagacagat ttctgtgatt 540  
 ttgaggttca atttgaggtc gtccataatg ctattcacta cttgggtgggt ggtcgacaag 600  
 tttatgctct ttcttctcaa cactatgctt catatgaccc agccttcttt attcatcact 660  
 cctttgttga caaaatatgg gcagtctggc aagctctgca aaagaagaga aagcgtccct 720  
 atcataaagc ggattgtgct cttaacatga tgaccaaacc aatgcgacca tttgcacacg 780  
 atttcaatca caatggattc acaaaaatgc acgcagctcc caacactcta tttgactttc 840  
 aggacctttt ctacacgtat gacaacttag aaattgctgg catgaatgtt aatcagttgg 900  
 aagcggaaat caaccggcga aaaagccaaa caagagtctt tgccgggttc cttctacatg 960  
 gcatttgaag atcagctgat gtacgatttt ggatttgcaa gacagctgac gactgccacg 1020  
 catctggcat gatctttatc ttaggaggtt cttaaagagat gcactgggcc tatgacagga 1080  
 actttaataa cgacatcacc caagctttga aggtcagtc cataccacct gaagatgtgt 1140  
 ttgacactga tgctcctttc ttcattaaag tggaggtcca tgggtgaaac aagactgctc 1200  
 tcccatcttc agctatccca gcacctacta taatctactc agctggtgaa g 1251

<210> 62  
 <211> 1185  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 62  
 atcatattgc tggcagtgga gtcaggaaag acgtgacgtc tcttaccgca tctgagatag 60  
 agaacctgag gcatgctctg caaagcgtga tggatgatga tggacccaat ggattccagg 120  
 caattgctgc ttatcacgga agtcctccca tgtgtcacat gcntgatggt agagacgttg 180  
 catgttgtag tcatggaatg gcatctttcc ctactggca cagactgttt gtgaaacaga 240  
 tggaggatgc actggctgcg catggagctc acattggcat accatactgg gattggacaa 300  
 gtgcgtttag tcatctgcct gccctagtga ctgaccacga gcacaatccc ttccaccacg 360  
 gacatattgc tcatcggaat gtggatacat ctcgatctcc gagagacatg ctgttcaatg 420  
 accccgaaca cgggtcagaa tcattcttct atagacaggt tctcttggt ctagaacaga 480  
 cagacttctg ccaatttgaa gttcagtttg aaataacaca caatgcaatc cactcttgga 540  
 ctggaggaca tactccatat ggaatgtcat cactggaata tacagcatat gatccactct 600  
 tttatctcca ccattccaac actgatcgta tctgggccat ctggcaggca ctccagaaat 660  
 acagaggttt tcaatacaac gcagctcatt gcgatatcca ggttctgaaa caacctctta 720  
 aaccattcag cgagtcacag aatccaaacc cagtcaccag agccaattct agggcagtcg 780  
 attcatttga ttatgagaga ctcaattatc aatatgacac acttaccttc cacggacatt 840  
 ctatctcaga acttgatgcc atgcttcaag agagaaagaa ggaagagaga acatttgcag 900  
 ccttcctggt gcacggattt ggcgccagtg ctgatgtttc gtttgatgtc tgcacacctg 960  
 atggtcattg tgcttttgcg ggaaccttcg cggtaacttg tggggagctt gagatgccct 1020  
 ggtcctttga aagattgttc cgttacgata tcacaaaggt tctcaagcag atgaatcttc 1080  
 actatgattc tgagttccac tttgagttga agattgttgg cacagatgga acagaactgc 1140  
 catcggatcg tatcaagagc cctaccattg aacaccatgg aggag 1185

<210> 63  
 <211> 422  
 <212> PRT  
 <213> *Haliotis tuberculata*

<220>  
 <221> SIGNAL  
 <222> (1)..(15)

<400> 63  
 Leu Val Gln Phe Leu Leu Val Ala Leu Val Val Gly Ala Gly Ala Asp  
 1 5 10 15  
 Asn Val Val Arg Lys Asp Val Ser His Leu Thr Asp Asp Glu Val Gln  
 20 25 30  
 Ala Leu His Gly Ala Leu His Asp Val Thr Ala Ser Thr Gly Pro Leu  
 35 40 45  
 Ser Phe Glu Asp Ile Thr Ser Tyr His Ala Ala Pro Ala Ser Cys Asp  
 50 55 60  
 Tyr Lys Gly Arg Lys Ile Ala Cys Cys Val His Gly Met Pro Ser Phe  
 65 70 75 80  
 Pro Phe Trp His Arg Ala Tyr Val Val Gln Ala Glu Arg Ala Leu Leu  
 85 90 95  
 Ser Lys Arg Lys Thr Val Gly Met Pro Tyr Trp Asp Trp Thr Gln Thr  
 100 105 110

Leu Thr His Leu Pro Ser Leu Val Thr Glu Pro Ile Tyr Ile Asp Ser  
 115 120 125  
 Lys Gly Gly Lys Ala Gln Thr Asn Tyr Trp Tyr Arg Gly Glu Ile Ala  
 130 135 140  
 Phe Ile Asn Lys Lys Thr Ala Arg Ala Val Asp Asp Arg Leu Phe Glu  
 145 150 155 160  
 Lys Val Glu Pro Gly His Tyr Thr His Leu Met Glu Thr Val Leu Asp  
 165 170 175  
 Ala Leu Glu Gln Asp Glu Phe Cys Lys Phe Glu Ile Gln Phe Glu Leu  
 180 185 190  
 Ala His Asn Ala Ile His Tyr Leu Val Gly Gly Lys Phe Glu Tyr Ser  
 195 200 205  
 Met Ser Asn Leu Glu Tyr Thr Ser Tyr Asp Pro Ile Phe Phe Leu His  
 210 215 220  
 His Ser Asn Val Asp Arg Leu Phe Ala Ile Trp Gln Arg Leu Gln Glu  
 225 230 235 240  
 Leu Arg Gly Lys Asn Pro Asn Ala Met Asp Cys Ala His Glu Leu Ala  
 245 250 255  
 His Gln Gln Leu Gln Pro Phe Asn Arg Asp Ser Asn Pro Val Gln Leu  
 260 265 270  
 Thr Lys Asp His Ser Thr Pro Ala Asp Leu Phe Asp Tyr Lys Gln Leu  
 275 280 285  
 Gly Tyr Ser Tyr Asp Ser Leu Asn Leu Asn Gly Met Thr Pro Glu Gln  
 290 295 300  
 Leu Lys Thr Glu Leu Asp Glu Arg His Ser Lys Glu Arg Ala Phe Ala  
 305 310 315 320  
 Ser Phe Arg Leu Ser Gly Phe Gly Gly Ser Ala Asn Val Val Val Tyr  
 325 330 335  
 Ala Cys Val Pro Asp Asp Asp Pro Arg Ser Asp Asp Tyr Cys Glu Lys  
 340 345 350  
 Ala Gly Asp Phe Phe Ile Leu Gly Gly Gln Ser Glu Met Pro Trp Arg  
 355 360 365  
 Phe Tyr Arg Pro Phe Phe Tyr Asp Val Thr Glu Ala Val His His Leu  
 370 375 380  
 Gly Val Pro Leu Ser Gly His Tyr Tyr Val Lys Thr Glu Leu Phe Ser  
 385 390 395 400  
 Val Asn Gly Thr Ala Leu Ser Pro Asp Leu Leu Pro Gln Pro Thr Val  
 405 410 415

Ala Tyr Arg Pro Gly Lys  
420

<210> 64

<211> 511

<212> PRT

<213> *Haliotis tuberculata*

<400> 64

Val His Arg Gly Gly Asn His Glu Asp Glu His His Asp Asp Arg Leu  
1 5 10 15

Ala Asp Val Leu Ile Arg Lys Glu Val Asp Phe Leu Ser Leu Gln Glu  
20 25 30

Ala Asn Ala Ile Lys Asp Ala Leu Tyr Lys Leu Gln Asn Asp Asp Ser  
35 40 45

Lys Gly Gly Phe Glu Ala Ile Ala Gly Tyr His Gly Tyr Pro Asn Met  
50 55 60

Cys Pro Glu Arg Gly Thr Asp Lys Tyr Pro Cys Cys Val His Gly Met  
65 70 75 80

Pro Val Phe Pro His Trp His Arg Leu His Thr Ile Gln Met Glu Arg  
85 90 95

Ala Leu Lys Asn His Gly Ser Pro Met Gly Ile Pro Tyr Trp Asp Trp  
100 105 110

Thr Lys Lys Met Ser Ser Leu Pro Ser Phe Phe Gly Asp Ser Ser Asn  
115 120 125

Asn Asn Pro Phe Tyr Lys Tyr Tyr Ile Arg Gly Val Gln His Glu Thr  
130 135 140

Thr Arg Asp Val Asn Gln Arg Leu Phe Asn Gln Thr Lys Phe Gly Glu  
145 150 155 160

Phe Asp Tyr Leu Tyr Tyr Leu Thr Leu Gln Val Leu Glu Glu Asn Ser  
165 170 175

Tyr Cys Asp Phe Glu Val Gln Tyr Glu Ile Leu His Asn Ala Val His  
180 185 190

Ser Trp Leu Gly Gly Thr Gly Gln Tyr Ser Met Ser Thr Leu Glu His  
195 200 205

Ser Ala Phe Asp Pro Val Phe Met Ile His His Ser Ser Leu Asp Arg  
210 215 220

Ile Trp Ile Leu Trp Gln Lys Leu Gln Lys Ile Arg Met Lys Pro Tyr  
225 230 235 240

Tyr Ala Leu Asp Cys Ala Gly Asp Arg Leu Met Lys Asp Pro Leu His  
 245 250 255  
 Pro Phe Asn Tyr Glu Thr Val Asn Glu Asp Glu Phe Thr Arg Ile Asn  
 260 265 270  
 Ser Phe Pro Ser Ile Leu Phe Asp His Tyr Arg Phe Asn Tyr Glu Tyr  
 275 280 285  
 Asp Asn Met Arg Ile Arg Gly Gln Asp Ile His Glu Leu Glu Glu Val  
 290 295 300  
 Ile Gln Glu Leu Arg Asn Lys Asp Arg Ile Phe Ala Gly Phe Val Leu  
 305 310 315 320  
 Ser Gly Leu Arg Ile Ser Ala Thr Val Lys Val Phe Ile His Ser Lys  
 325 330 335  
 Asn Asp Thr Ser His Glu Glu Tyr Ala Gly Glu Phe Ala Val Leu Gly  
 340 345 350  
 Gly Glu Lys Glu Met Pro Trp Ala Tyr Glu Arg Met Leu Lys Leu Asp  
 355 360 365  
 Ile Ser Asp Ala Val His Lys Leu His Val Lys Asp Glu Asp Ile Arg  
 370 375 380  
 Phe Arg Val Val Val Thr Ala Tyr Asn Gly Asp Val Val Thr Thr Arg  
 385 390 395 400  
 Leu Ser Gln Pro Phe Ile Val His Arg Pro Ala His Val Ala His Asp  
 405 410 415  
 Ile Leu Val Ile Pro Val Gly Ala Gly His Asp Leu Pro Pro Lys Val  
 420 425 430  
 Val Val Lys Ser Gly Thr Lys Val Glu Phe Thr Pro Ile Asp Ser Ser  
 435 440 445  
 Val Asn Lys Ala Met Val Glu Leu Gly Ser Tyr Thr Ala Met Ala Lys  
 450 455 460  
 Cys Ile Val Pro Pro Phe Ser Tyr His Gly Phe Glu Leu Asp Lys Val  
 465 470 475 480  
 Tyr Ser Val Asp His Gly Asp Tyr Tyr Ile Ala Ala Gly Thr His Ala  
 485 490 495  
 Leu Cys Glu Gln Asn Leu Arg Leu His Ile His Val Glu His Glu  
 500 505 510

&lt;210&gt; 65

&lt;211&gt; 197

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

<400> 65  
 Gly Leu Pro Tyr Trp Asp Trp Thr Gln His Leu Thr Gln Leu Pro Asp  
 1 5 10 15  
 Leu Val Ser Asp Pro Leu Phe Val Asp Pro Glu Gly Gly Lys Ala His  
 20 25 30  
 Asp Asn Ala Trp Tyr Arg Gly Asn Ile Lys Phe Glu Asn Lys Lys Thr  
 35 40 45  
 Ala Arg Ala Val Asp Asp Arg Leu Phe Glu Lys Val Gly Pro Gly Glu  
 50 55 60  
 Asn Thr Arg Leu Phe Glu Gly Ile Leu Asp Ala Leu Glu Gln Asp Glu  
 65 70 75 80  
 Phe Cys Asn Phe Glu Ile Gln Phe Glu Leu Ala His Asn Ala Ile His  
 85 90 95  
 Tyr Leu Val Gly Gly Arg His Thr Tyr Ser Met Ser His Leu Glu Tyr  
 100 105 110  
 Thr Ser Tyr Asp Pro Leu Phe Phe Leu His His Ser Asn Pro Asp Arg  
 115 120 125  
 Ile Phe Ala Ile Trp Glu Arg Leu Gln Val Leu Arg Gly Lys Asp Pro  
 130 135 140  
 Asn Thr Ala Asp Cys Ala His Asn Leu Ile His Glu Pro Met Glu Pro  
 145 150 155 160  
 Phe Arg Arg His Glu Pro Met Glu Pro Phe Arg Arg Asp Ser Asn Pro  
 165 170 175  
 Leu Asp Leu Thr Arg Glu Asn Ser Lys Pro Ile Asp Ser Phe Asp Tyr  
 180 185 190  
 Ala His Leu Gly Tyr  
 195

<210> 66  
 <211> 415  
 <212> PRT  
 <213> *Haliotis tuberculata*

<400> 66  
 Val Thr Glu Ala Pro Ala Pro Ser Ser Asp Ala His Leu Ala Val Arg  
 1 5 10 15  
 Lys Asp Ile Asn His Leu Thr Arg Glu Glu Val Tyr Glu Leu Arg Arg  
 20 25 30  
 Ala Met Glu Arg Phe Gln Ala Asp Thr Ser Val Asp Gly Tyr Gln Ala  
 35 40 45

56

Thr Val Glu Tyr His Gly Leu Pro Ala Arg Cys Pro Phe Pro Glu Ala  
 50 55 60

Thr Asn Arg Phe Ala Cys Cys Ile His Gly Met Ala Thr Phe Pro His  
 65 70 75 80

Trp His Arg Leu Phe Val Thr Gln Val Glu Asp Ala Leu Ile Arg Arg  
 85 90 95

Gly Ser Pro Ile Gly Val Pro Tyr Trp Asp Trp Thr Gln Pro Met Ala  
 100 105 110

His Leu Pro Gly Leu Ala Asp Asn Ala Thr Tyr Arg Asp Pro Ile Ser  
 115 120 125

Gly Asp Ser Arg His Asn Pro Phe His Asp Val Glu Val Ala Phe Glu  
 130 135 140

Asn Gly Arg Thr Glu Arg His Pro Asp Ser Arg Leu Phe Glu Gln Pro  
 145 150 155 160

Leu Phe Gly Lys His Thr Arg Leu Phe Asp Ser Ile Val Tyr Ala Phe  
 165 170 175

Glu Gln Glu Asp Phe Cys Asp Phe Glu Val Gln Phe Glu Met Thr His  
 180 185 190

Asn Asn Ile His Ala Trp Ile Gly Gly Gly Glu Lys Tyr Ser Met Ser  
 195 200 205

Ser Leu His Tyr Thr Ala Phe Asp Pro Ile Phe Tyr Leu Arg His Ser  
 210 215 220

Asn Thr Asp Arg Leu Trp Ala Ile Trp Gln Ala Leu Gln Ile Arg Arg  
 225 230 235 240

Asn Arg Pro Tyr Lys Ala His Cys Ala Trp Ser Glu Glu Arg Gln Pro  
 245 250 255

Leu Lys Pro Phe Ala Phe Ser Ser Pro Leu Asn Asn Asn Glu Lys Thr  
 260 265 270

Tyr Glu Asn Ser Val Pro Thr Asn Val Tyr Asp Tyr Glu Gly Val Leu  
 275 280 285

Gly Tyr Thr Tyr Asp Asp Leu Asn Phe Gly Gly Met Asp Leu Gly Gln  
 290 295 300

Leu Glu Glu Tyr Ile Gln Arg Gln Arg Gln Arg Asp Arg Thr Phe Ala  
 305 310 315 320

Gly Phe Phe Leu Ser His Ile Gly Thr Ser Ala Asn Val Glu Ile Ile  
 325 330 335

Ile Asp His Gly Thr Leu His Thr Ser Val Gly Thr Phe Ala Val Leu  
 340 345 350



Gly Gly Glu Lys Glu Met Lys Trp Gly Phe Asp Arg Leu Tyr Lys Tyr  
 355 360 365  
 57  
 Glu Ile Thr Asp Glu Leu Arg Gln Leu Asn Leu Arg Ala Asp Asp Val  
 370 375 380  
 Phe Ser Ile Ser Val Lys Val Thr Asp Val Asp Gly Ser Glu Leu Ser  
 385 390 395 400  
 Ser Glu Leu Ile Pro Ser Ala Ala Ile Ile Phe Glu Arg Ser His  
 405 410 415  
 <210> 67  
 <211> 414  
 <212> PRT  
 <213> *Haliotis tuberculata*  
 <400> 67  
 Gly His His Gln Ala Asp Glu Tyr Asp Glu Val Val Thr Ala Ala Ser  
 1 5 10 15  
 His Ile Arg Lys Asn Leu Lys Asp Leu Ser Lys Gly Glu Val Glu Ser  
 20 25 30  
 Leu Arg Ser Ala Phe Leu Gln Leu Gln Asn Asp Gly Val Tyr Glu Asn  
 35 40 45  
 Ile Ala Lys Phe His Gly Lys Pro Gly Leu Cys Asp Asp Asn Gly Arg  
 50 55 60  
 Lys Val Ala Cys Cys Val His Gly Met Pro Thr Phe Pro Gln Trp His  
 65 70 75 80  
 Arg Leu Tyr Val Leu Gln Val Glu Asn Ala Leu Leu Glu Arg Gly Ser  
 85 90 95  
 Ala Val Ser Val Pro Tyr Trp Asp Trp Thr Glu Thr Phe Thr Glu Leu  
 100 105 110  
 Pro Ser Leu Ile Ala Glu Ala Thr Tyr Phe Asn Ser Arg Gln Gln Thr  
 115 120 125  
 Phe Asp Pro Asn Pro Phe Phe Arg Gly Lys Ile Ser Phe Glu Asn Ala  
 130 135 140  
 Val Thr Thr Arg Asp Pro Gln Pro Glu Leu Tyr Val Asn Arg Tyr Tyr  
 145 150 155 160  
 Tyr Gln Asn Val Met Leu Val Phe Glu Gln Asp Asn Tyr Cys Asp Phe  
 165 170 175  
 Glu Ile Gln Phe Glu Met Val His Asn Val Leu His Ala Trp Leu Gly  
 180 185 190  
 Gly Arg Ala Thr Tyr Ser Ile Ser Ser Leu Asp Tyr Ser Ala Phe Asp  
 195 200 205

Pro Val Phe Phe Leu His His Ala Asn Thr Asp Arg Leu Trp Ala Ile  
 210 215 220  
 Trp Gln Glu Leu Gln Arg Tyr Arg Lys Lys Pro Tyr Asn Glu Ala Asp  
 225 230 235 240  
 Cys Ala Ile Asn Leu Met Arg Lys Pro Leu His Pro Phe Asp Asn Ser  
 245 250 255  
 Asp Leu Asn His Asp Pro Val Thr Phe Lys Tyr Ser Lys Pro Thr Asp  
 260 265 270  
 Gly Phe Asp Tyr Gln Asn Asn Phe Gly Tyr Lys Tyr Asp Asn Leu Glu  
 275 280 285  
 Phe Asn His Phe Ser Ile Pro Arg Leu Glu Glu Ile Ile Arg Ile Arg  
 290 295 300  
 Gln Arg Gln Asp Arg Val Phe Ala Gly Phe Leu Leu His Asn Ile Gly  
 305 310 315 320  
 Thr Ser Ala Thr Val Glu Ile Phe Val Cys Val Pro Thr Thr Ser Gly  
 325 330 335  
 Glu Gln Asn Cys Glu Asn Lys Ala Gly Thr Phe Ala Val Leu Gly Gly  
 340 345 350  
 Glu Thr Glu Met Ala Phe His Phe Asp Arg Leu Tyr Arg Phe Asp Ile  
 355 360 365  
 Ser Glu Thr Leu Arg Asp Leu Gly Ile Gln Leu Asp Ser His Asp Phe  
 370 375 380  
 Asp Leu Ser Ile Lys Ile Gln Gly Val Asn Gly Ser Tyr Leu Asp Pro  
 385 390 395 400  
 His Ile Leu Pro Glu Pro Ser Leu Ile Phe Val Pro Gly Ser  
 405 410

&lt;210&gt; 68

&lt;211&gt; 419

&lt;212&gt; PRT

&lt;213&gt; Haliotis tuberculata

&lt;400&gt; 68

Ser Ser Phe Leu Arg Pro Asp Gly His Ser Asp Asp Ile Leu Val Arg  
 1 5 10 15

Lys Glu Val Asn Ser Leu Thr Thr Arg Glu Thr Ala Ser Leu Ile His  
 20 25 30

Ala Leu Lys Ser Met Gln Glu Asp His Ser Pro Asp Gly Phe Gln Ala  
 35 40 45

59

Ile Ala Ser Phe His Ala Leu Pro Pro Leu Cys Pro Ser Pro Ser Ala  
 50 55 60

Ala His Arg Tyr Ala Cys Cys Val His Gly Met Ala Thr Phe Pro Gln  
 65 70 75 80

Trp His Arg Leu Tyr Thr Val Gln Phe Gln Asp Ala Leu Arg Arg His  
 85 90 95

Gly Ala Thr Val Gly Val Pro Tyr Trp Asp Trp Leu Arg Pro Gln Ser  
 100 105 110

His Leu Pro Glu Leu Val Thr Met Glu Thr Tyr His Asp Ile Trp Ser  
 115 120 125

Asn Arg Asp Phe Pro Asn Pro Phe Tyr Gln Ala Asn Ile Glu Phe Glu  
 130 135 140

Gly Glu Asn Ile Thr Thr Glu Arg Glu Val Ile Ala Asp Lys Leu Phe  
 145 150 155 160

Val Lys Gly Gly His Val Phe Asp Lys Leu Val Leu Gln Thr Ser His  
 165 170 175

Pro Ser Ala Glu Gln Glu Asn Tyr Cys Asp Phe Glu Ile Gln Phe Glu  
 180 185 190

Ile Leu His Asn Gly Val His Thr Trp Val Gly Gly Ser Arg Thr Tyr  
 195 200 205

Ser Ile Gly His Leu His Tyr Ala Phe Tyr Asp Pro Leu Phe Tyr Leu  
 210 215 220

His His Phe Gln Thr Asp Arg Ile Trp Ala Ile Trp Gln Glu Leu Gln  
 225 230 235 240

Glu Gln Arg Gly Leu Ser Gly Asp Glu Ala His Cys Ala Leu Glu Gln  
 245 250 255

Met Arg Glu Pro Leu Lys Pro Phe Ser Phe Gly Ala Pro Tyr Asn Trp  
 260 265 270

Asn Gln Leu Thr Gln Asp Phe Ser Arg Pro Glu Asp Thr Phe Asp Tyr  
 275 280 285

Arg Lys Phe Gly Tyr Glu Tyr Asp Asn Leu Glu Phe Leu Gly Met Ser  
 290 295 300

Val Ala Glu Leu Asp Gln Tyr Ile Ile Glu His Gln Glu Asn Asp Arg  
 305 310 315 320

Val Phe Ala Gly Phe Leu Leu Ser Gly Phe Gly Gly Ser Ala Ser Val  
 325 330 335

Asn Phe Gln Val Cys Arg Ala Asp Ser Thr Cys Gln Asp Ala Gly Tyr  
 340 345 350

Phe Thr Val Leu Gly Gly Ser Ala Glu Met Ala Trp Ala Phe Asp Arg  
 355 360 365  
 Leu Tyr Lys Tyr Asp Ile Thr Glu Thr Leu Glu Lys Met His Leu Arg  
 370 375 380  
 Tyr Asp Asp Asp Phe Thr Ile Ser Val Ser Leu Thr Ala Asn Asn Gly  
 385 390 395 400  
 Thr Val Leu Ser Ser Ser Leu Ile Pro Thr Pro Ser Val Ile Phe Gln  
 405 410 415  
 Arg Gly His

<210> 69  
 <211> 378  
 <212> PRT  
 <213> Megathura crenulata

<400> 69  
 Arg Tyr Gln Ala Thr Ala Glu Tyr His Gly Leu Pro Ala Arg Cys Pro  
 1 5 10 15  
 Arg Pro Asp Ala Lys Asp Arg Tyr Ala Cys Cys Val His Gly Met Pro  
 20 25 30  
 Ile Phe Pro His Trp His Arg Leu Phe Val Thr Gln Val Glu Asp Ala  
 35 40 45  
 Leu Val Gly Arg Gly Ala Thr Ile Gly Ile Pro Tyr Trp Asp Trp Thr  
 50 55 60  
 Glu Pro Met Thr His Ile Pro Gly Leu Ala Gly Asn Lys Thr Tyr Val  
 65 70 75 80  
 Asp Ser His Gly Ala Ser His Thr Asn Pro Phe His Ser Ser Val Ile  
 85 90 95  
 Ala Phe Glu Glu Asn Ala Pro His Thr Lys Arg Gln Ile Asp Gln Arg  
 100 105 110  
 Leu Phe Lys Pro Ala Thr Phe Gly His His Thr Asp Leu Phe Asn Gln  
 115 120 125  
 Ile Leu Tyr Ala Phe Glu Gln Glu Asp Tyr Cys Asp Phe Glu Val Gln  
 130 135 140  
 Phe Glu Ile Thr His Asn Thr Ile His Ala Trp Thr Gly Gly Ser Glu  
 145 150 155 160  
 His Phe Ser Met Ser Ser Leu His Tyr Thr Ala Phe Asp Pro Leu Phe  
 165 170 175  
 Tyr Phe His His Ser Asn Val Asp Arg Leu Trp Ala Val Trp Gln Ala  
 180 185 190

Leu Gln Met Arg Arg His Lys Pro Tyr Arg Ala His Cys Ala Ile Ser  
 195 200 205  
 Leu Glu His Met His Leu Lys Pro Phe Ala Phe Ser Ser Pro Leu Asn  
 210 215 220  
 Asn Asn Glu Lys Thr His Ala Asn Ala Met Pro Asn Lys Ile Tyr Asp  
 225 230 235 240  
 Tyr Glu Asn Val Leu His Tyr Thr Tyr Glu Asp Leu Thr Phe Gly Gly  
 245 250 255  
 Ile Ser Leu Glu Asn Ile Glu Lys Met Ile His Glu Asn Gln Gln Glu  
 260 265 270  
 Asp Arg Ile Tyr Ala Gly Phe Leu Leu Ala Gly Ile Arg Thr Ser Ala  
 275 280 285  
 Asn Val Asp Ile Phe Ile Lys Thr Thr Asp Ser Val Gln His Lys Ala  
 290 295 300  
 Gly Thr Phe Ala Val Leu Gly Gly Ser Lys Glu Met Lys Trp Gly Phe  
 305 310 315 320  
 Asp Arg Val Phe Lys Phe Asp Ile Thr His Val Leu Lys Asp Leu Asp  
 325 330 335  
 Leu Thr Ala Asp Gly Asp Phe Glu Val Thr Val Asp Ile Thr Glu Val  
 340 345 350  
 Asp Gly Thr Lys Leu Ala Ser Ser Leu Ile Pro His Ala Ser Val Ile  
 355 360 365  
 Arg Glu His Ala Arg Gly Lys Leu Asn Arg  
 370 375

<210> 70  
 <211> 419  
 <212> PRT  
 <213> Megathura crenulata

<400> 70  
 Asp Ser Ala His Thr Asp Asp Gly His Thr Glu Pro Val Met Ile Arg  
 1 5 10 15  
 Lys Asp Ile Thr Gln Leu Asp Lys Arg Gln Gln Leu Ser Leu Val Lys  
 20 25 30  
 Ala Leu Glu Ser Met Lys Ala Asp His Ser Ser Asp Gly Phe Gln Ala  
 35 40 45  
 Ile Ala Ser Phe His Ala Leu Pro Pro Leu Cys Pro Ser Pro Ala Ala  
 50 55 60

Ser Lys Arg Phe Ala Cys Cys Val His Gly Met Ala Thr Phe Pro Gln  
 65 70 75 80  
 Trp His Arg Leu Tyr Thr Val Gln Phe Gln Asp Ser Leu Arg Lys His  
 85 90 95  
 Gly Ala Val Val Gly Leu Pro Tyr Trp Asp Trp Thr Leu Pro Arg Ser  
 100 105 110  
 Glu Leu Pro Glu Leu Leu Thr Val Ser Thr Ile His Asp Pro Glu Thr  
 115 120 125  
 Gly Arg Asp Ile Pro Asn Pro Phe Ile Gly Ser Lys Ile Glu Phe Glu  
 130 135 140  
 Gly Glu Asn Val His Thr Lys Arg Asp Ile Asn Arg Asp Arg Leu Phe  
 145 150 155 160  
 Gln Gly Ser Thr Lys Thr His His Asn Trp Phe Ile Glu Gln Ala Leu  
 165 170 175  
 Leu Ala Leu Glu Gln Thr Asn Tyr Cys Asp Phe Glu Val Gln Phe Glu  
 180 185 190  
 Ile Met His Asn Gly Val His Thr Trp Val Gly Gly Lys Glu Pro Tyr  
 195 200 205  
 Gly Ile Gly His Leu His Tyr Ala Ser Tyr Asp Pro Leu Phe Tyr Ile  
 210 215 220  
 His His Ser Gln Thr Asp Arg Ile Trp Ala Ile Trp Gln Ser Leu Gln  
 225 230 235 240  
 Arg Phe Arg Gly Leu Ser Gly Ser Glu Ala Asn Cys Ala Val Asn Leu  
 245 250 255  
 Met Lys Thr Pro Leu Lys Pro Phe Ser Phe Gly Ala Pro Tyr Asn Leu  
 260 265 270  
 Asn Asp His Thr His Asp Phe Ser Lys Pro Glu Asp Thr Phe Asp Tyr  
 275 280 285  
 Gln Lys Phe Gly Tyr Ile Tyr Asp Thr Leu Glu Phe Ala Gly Trp Ser  
 290 295 300  
 Ile Arg Gly Ile Asp His Ile Val Arg Asn Arg Gln Glu His Ser Arg  
 305 310 315 320  
 Val Phe Ala Gly Phe Leu Leu Glu Gly Phe Gly Thr Ser Ala Thr Val  
 325 330 335  
 Asp Phe Gln Val Cys Arg Thr Ala Gly Asp Cys Glu Asp Ala Gly Tyr  
 340 345 350  
 Phe Thr Val Leu Gly Gly Glu Lys Glu Met Pro Trp Ala Phe Asp Arg  
 355 360 365

63

Leu Tyr Lys Tyr Asp Ile Thr Glu Thr Leu Asp Lys Met Asn Leu Arg  
 370 375 380

His Asp Glu Ile Phe Gln Ile Glu Val Thr Ile Thr Ser Tyr Asp Gly  
 385 390 395 400

Thr Val Leu Asp Ser Gly Leu Ile Pro Thr Pro Ser Ile Ile Tyr Asp  
 405 410 415

Pro Ala His

<210> 71

<211> 418

<212> PRT

<213> Megathura crenulata

<400> 71

His Asp Ile Ser Ser His His Leu Ser Leu Asn Lys Val Arg His Asp  
 1 5 10 15

Leu Ser Thr Leu Ser Glu Arg Asp Ile Gly Ser Leu Lys Tyr Ala Leu  
 20 25 30

Ser Ser Leu Gln Ala Asp Thr Ser Ala Asp Gly Phe Ala Ala Ile Ala  
 35 40 45

Ser Phe His Gly Leu Pro Ala Lys Cys Asn Asp Ser His Asn Asn Glu  
 50 55 60

Val Ala Cys Cys Ile His Gly Met Pro Thr Phe Pro His Trp His Arg  
 65 70 75 80

Leu Tyr Thr Leu Gln Phe Glu Gln Ala Leu Arg Arg His Gly Ser Ser  
 85 90 95

Val Ala Val Pro Tyr Trp Asp Trp Thr Lys Pro Ile His Asn Ile Pro  
 100 105 110

His Leu Phe Thr Asp Lys Glu Tyr Tyr Asp Val Trp Arg Asn Lys Val  
 115 120 125

Met Pro Asn Pro Phe Ala Arg Gly Tyr Val Pro Ser His Asp Thr Tyr  
 130 135 140

Thr Val Arg Asp Val Gln Glu Gly Leu Phe His Leu Thr Ser Thr Gly  
 145 150 155 160

Glu His Ser Ala Leu Leu Asn Gln Ala Leu Leu Ala Leu Glu Gln His  
 165 170 175

Asp Tyr Cys Asp Phe Ala Val Gln Phe Glu Val Met His Asn Thr Ile  
 180 185 190

His Tyr Leu Val Gly Gly Pro Gln Val Tyr Ser Leu Ser Ser Leu His  
 195 200 205

ERSATZBLATT (REGEL 26)

64

Tyr Ala Ser Tyr Asp Pro Ile Phe Phe Ile His His Ser Phe Val Asp  
 210 215 220  
 Lys Val Trp Ala Val Trp Gln Ala Leu Gln Glu Lys Arg Gly Leu Pro  
 225 230 235 240  
 Ser Asp Arg Ala Asp Cys Ala Val Ser Leu Met Thr Gln Asn Met Arg  
 245 250 255  
 Pro Phe His Tyr Glu Ile Asn His Asn Gln Phe Thr Lys Lys His Ala  
 260 265 270  
 Val Pro Asn Asp Val Phe Lys Tyr Glu Leu Leu Gly Tyr Arg Tyr Asp  
 275 280 285  
 Asn Leu Glu Ile Gly Gly Met Asn Leu His Glu Ile Glu Lys Glu Ile  
 290 295 300  
 Lys Asp Lys Gln His His Val Arg Val Phe Ala Gly Phe Leu Leu His  
 305 310 315 320  
 Gly Ile Arg Thr Ser Ala Asp Val Gln Phe Gln Ile Cys Lys Thr Ser  
 325 330 335  
 Glu Asp Cys His His Gly Gly Gln Ile Phe Val Leu Gly Gly Thr Lys  
 340 345 350  
 Glu Met Ala Trp Ala Tyr Asn Arg Leu Phe Lys Tyr Asp Ile Thr His  
 355 360 365  
 Ala Leu His Asp Ala His Ile Thr Pro Glu Asp Val Phe His Pro Ser  
 370 375 380  
 Glu Pro Phe Phe Ile Lys Val Ser Val Thr Ala Val Asn Gly Thr Val  
 385 390 395 400  
 Leu Pro Ala Ser Ile Leu His Ala Pro Thr Ile Ile Tyr Glu Pro Gly  
 405 410 415  
 Leu Gly

<210> 72  
 <211> 241  
 <212> PRT  
 <213> Megathura crenulata

<400> 72  
 Asp His His Glu Asp His His Ser Ser Ser Met Ala Gly His Gly Val  
 1 5 10 15  
 Arg Lys Glu Ile Asn Thr Leu Thr Thr Ala Glu Val Asp Asn Leu Lys  
 20 25 30



Asp Ala Met Arg Ala Val Met Ala Asp His Gly Pro Asn Gly Tyr Gln  
 35 40 45  
 Ala Ile Ala Ala Phe His Gly Asn Pro Pro Met Cys Pro Met Pro Asp  
 50 55 60  
 Gly Lys Asn Tyr Ser Cys Cys Thr His Gly Met Ala Thr Phe Pro His  
 65 70 75 80  
 Trp His Arg Leu Tyr Thr Lys Gln Met Glu Asp Ala Leu Thr Ala His  
 85 90 95  
 Gly Ala Arg Val Gly Leu Pro Tyr Trp Asp Gly Thr Thr Ala Phe Thr  
 100 105 110  
 Ala Leu Pro Thr Phe Val Thr Asp Glu Glu Asp Asn Pro Phe His His  
 115 120 125  
 Gly His Ile Asp Tyr Leu Gly Val Asp Thr Thr Arg Ser Pro Arg Asp  
 130 135 140  
 Lys Leu Phe Asn Asp Pro Glu Arg Gly Ser Glu Ser Phe Phe Tyr Arg  
 145 150 155 160  
 Gln Val Leu Leu Ala Leu Glu Gln Thr Asp Phe Cys Gln Phe Glu Val  
 165 170 175  
 Gln Phe Glu Ile Thr His Asn Ala Ile His Ser Trp Thr Gly Gly Leu  
 180 185 190  
 Thr Pro Tyr Gly Met Ser Thr Leu Glu Tyr Thr Thr Tyr Asp Pro Leu  
 195 200 205  
 Phe Trp Leu His His Ala Asn Thr Asp Arg Ile Trp Ala Ile Trp Gln  
 210 215 220  
 Ala Leu Gln Glu Tyr Arg Gly Leu Pro Tyr Asp His Ala Asn Cys Glu  
 225 230 235 240  
 Ile

&lt;210&gt; 73

&lt;211&gt; 98

&lt;212&gt; PRT

&lt;213&gt; Megathura crenulata

&lt;400&gt; 73

Lys His His Glu Lys His His Glu Asp His His Glu Asp Ile Leu Val  
 1 5 10 15

Arg Lys Asn Ile His Ser Leu Ser His His Glu Ala Glu Glu Leu Arg  
 20 25 30

Asp Ala Leu Tyr Lys Leu Gln Asn Asp Glu Ser His Gly Gly Tyr Glu  
 35 40 45

66

His Ile Ala Gly Phe His Gly Tyr Pro Asn Leu Cys Pro Glu Lys Gly  
 50 55 60  
 Asp Glu Lys Tyr Pro Cys Cys Val His Gly Met Ser Ile Phe Pro His  
 65 70 75 80  
 Trp His Arg Leu His Thr Ile Gln Leu Glu Arg Ala Leu Lys Lys His  
 85 90 95  
 Gly Ser

<210> 74  
 <211> 314  
 <212> PRT  
 <213> Megathura crenulata

<400> 74  
 Gly Leu Pro Tyr Trp Asp Trp Thr Met Pro Met Ser His Leu Pro Glu  
 1 5 10 15  
 Leu Ala Thr Ser Glu Thr Tyr Leu Asp Pro Val Thr Gly Glu Thr Lys  
 20 25 30  
 Asn Asn Pro Phe His His Ala Gln Val Ala Phe Glu Asn Gly Val Thr  
 35 40 45  
 Ser Arg Asn Pro Asp Ala Lys Leu Phe Met Lys Pro Thr Tyr Gly Asp  
 50 55 60  
 His Thr Tyr Leu Phe Asp Ser Met Ile Tyr Ala Phe Glu Gln Glu Asp  
 65 70 75 80  
 Phe Cys Asp Phe Glu Val Gln Tyr Glu Leu Thr His Asn Ala Ile His  
 85 90 95  
 Ala Trp Val Gly Gly Ser Glu Lys Tyr Ser Met Ser Ser Leu His Tyr  
 100 105 110  
 Thr Ala Phe Asp Pro Ile Phe Tyr Leu His His Ser Asn Val Asp Arg  
 115 120 125  
 Leu Trp Ala Ile Trp Gln Ala Leu Gln Ile Arg Arg Gly Lys Ser Tyr  
 130 135 140  
 Lys Ala His Cys Ala Ser Ser Gln Glu Arg Glu Pro Leu Lys Pro Phe  
 145 150 155 160  
 Ala Phe Ser Ser Pro Leu Asn Asn Asn Glu Lys Thr Tyr His Asn Ser  
 165 170 175  
 Val Pro Thr Asn Val Tyr Asp Tyr Val Gly Val Leu His Tyr Arg Tyr  
 180 185 190

67

Asp Asp Leu Gln Phe Gly Gly Met Thr Met Ser Glu Leu Glu Glu Tyr  
 195 200 205

Ile His Lys Gln Thr Gln His Asp Arg Thr Phe Ala Gly Phe Phe Leu  
 210 215 220

Ser Tyr Ile Gly Thr Ser Ala Ser Val Asp Ile Phe Ile Asn Arg Glu  
 225 230 235 240

Gly His Asp Lys Tyr Lys Val Gly Ser Phe Val Val Leu Gly Gly Ser  
 245 250 255

Lys Glu Met Lys Trp Gly Phe Asp Arg Met Tyr Lys Tyr Glu Ile Thr  
 260 265 270

Glu Ala Leu Lys Thr Leu Asn Val Ala Val Asp Asp Gly Phe Ser Ile  
 275 280 285

Thr Val Glu Ile Thr Asp Val Asp Gly Ser Pro Pro Ser Ala Asp Leu  
 290 295 300

Ile Pro Pro Pro Ala Ile Ile Phe Glu Arg  
 305 310

<210> 75  
 <211> 416  
 <212> PRT  
 <213> Megathura crenulata

<400> 75

Ala Asp Ala Lys Asp Phe Gly His Ser Arg Lys Ile Arg Lys Ala Val  
 1 5 10 15

Asp Ser Leu Thr Val Glu Glu Gln Thr Ser Leu Arg Arg Ala Met Ala  
 20 25 30

Asp Leu Gln Asp Asp Lys Thr Ser Gly Gly Phe Gln Gln Ile Ala Ala  
 35 40 45

Phe His Gly Glu Pro Lys Trp Cys Pro Ser Pro Glu Ala Glu Lys Lys  
 50 55 60

Phe Ala Cys Cys Val His Gly Met Ala Val Phe Pro His Trp His Arg  
 65 70 75 80

Leu Leu Thr Val Gln Gly Glu Asn Ala Leu Arg Lys His Gly Phe Thr  
 85 90 95

Gly Gly Leu Pro Tyr Trp Asp Trp Thr Arg Ser Met Ser Ala Leu Pro  
 100 105 110

His Phe Val Ala Asp Pro Thr Tyr Asn Asp Ala Ile Ser Ser Gln Glu  
 115 120 125

Glu Asp Asn Pro Trp His His Gly His Ile Asp Ser Val Gly His Asp  
 130 135 140

68

Thr Thr Arg Asp Val Arg Asp Asp Leu Tyr Gln Ser Pro Gly Phe Gly  
 145 150 155 160  
 His Tyr Thr Asp Ile Ala Lys Gln Val Leu Leu Ala Phe Glu Gln Asp  
 165 170 175  
 Asp Phe Cys Asp Phe Glu Val Gln Phe Glu Ile Ala His Asn Phe Ile  
 180 185 190  
 His Ala Leu Val Gly Gly Asn Glu Pro Tyr Ser Met Ser Ser Leu Arg  
 195 200 205  
 Tyr Thr Thr Tyr Asp Pro Ile Phe Phe Leu His Arg Ser Asn Thr Asp  
 210 215 220  
 Arg Leu Trp Ala Ile Trp Gln Ala Leu Gln Lys Tyr Arg Gly Lys Pro  
 225 230 235 240  
 Tyr Asn Thr Ala Asn Cys Ala Ile Ala Ser Met Arg Lys Pro Leu Gln  
 245 250 255  
 Pro Phe Gly Leu Asp Ser Val Ile Asn Pro Asp Asp Glu Thr Arg Glu  
 260 265 270  
 His Ser Val Pro Phe Arg Val Phe Asp Tyr Lys Asn Asn Phe Asp Tyr  
 275 280 285  
 Glu Tyr Glu Ser Leu Ala Phe Asn Gly Leu Ser Ile Ala Gln Leu Asp  
 290 295 300  
 Arg Glu Leu Gln Arg Arg Lys Ser His Asp Arg Val Phe Ala Gly Phe  
 305 310 315 320  
 Leu Leu His Glu Ile Gly Gln Ser Ala Leu Val Lys Phe Tyr Val Cys  
 325 330 335  
 Lys His Asn Val Ser Asp Cys Asp His Tyr Ala Gly Glu Phe Tyr Ile  
 340 345 350  
 Leu Gly Asp Glu Ala Glu Met Pro Trp Arg Tyr Asp Arg Val Tyr Lys  
 355 360 365  
 Tyr Glu Ile Thr Gln Gln Leu His Asp Leu Asp Leu His Val Gly Asp  
 370 375 380  
 Asn Phe Phe Leu Lys Tyr Glu Ala Phe Asp Leu Asn Gly Gly Ser Leu  
 385 390 395 400  
 Gly Gly Ser Ile Phe Ser Gln Pro Ser Val Ile Phe Glu Pro Ala Ala  
 405 410 415

<210> 76  
 <211> 419  
 <212> PRT

69

&lt;213&gt; Megathura crenulata

&lt;400&gt; 76

Gly Ser His Gln Ala Asp Glu Tyr Arg Glu Ala Val Thr Ser Ala Ser  
 1 5 10 15  
 His Ile Arg Lys Asn Ile Arg Asp Leu Ser Glu Gly Glu Ile Glu Ser  
 20 25 30  
 Ile Arg Ser Ala Phe Leu Gln Ile Gln Lys Glu Gly Ile Tyr Glu Asn  
 35 40 45  
 Ile Ala Lys Phe His Gly Lys Pro Gly Leu Cys Glu His Asp Gly His  
 50 55 60  
 Pro Val Ala Cys Cys Val His Gly Met Pro Thr Phe Pro His Trp His  
 65 70 75 80  
 Arg Leu Tyr Val Leu Gln Val Glu Asn Ala Leu Leu Glu Arg Gly Ser  
 85 90 95  
 Ala Val Ala Val Pro Tyr Trp Asp Trp Thr Glu Lys Ala Asp Ser Leu  
 100 105 110  
 Pro Ser Leu Ile Asn Asp Ala Thr Tyr Phe Asn Ser Arg Ser Gln Thr  
 115 120 125  
 Phe Asp Pro Asn Pro Phe Phe Arg Gly His Ile Ala Phe Glu Asn Ala  
 130 135 140  
 Val Thr Ser Arg Asp Pro Gln Pro Glu Leu Trp Asp Asn Lys Asp Phe  
 145 150 155 160  
 Tyr Glu Asn Val Met Leu Ala Leu Glu Gln Asp Asn Phe Cys Asp Phe  
 165 170 175  
 Glu Ile Gln Leu Glu Leu Ile His Asn Ala Leu His Ser Arg Leu Gly  
 180 185 190  
 Gly Arg Ala Lys Tyr Ser Leu Ser Ser Leu Asp Tyr Thr Ala Phe Asp  
 195 200 205  
 Pro Val Phe Phe Leu His His Ala Asn Val Asp Arg Ile Trp Ala Ile  
 210 215 220  
 Trp Gln Asp Leu Gln Arg Tyr Arg Lys Lys Pro Tyr Asn Glu Ala Asp  
 225 230 235 240  
 Cys Ala Val Asn Glu Met Arg Lys Pro Leu Gln Pro Phe Asn Asn Pro  
 245 250 255  
 Glu Leu Asn Ser Asp Ser Met Thr Leu Lys His Asn Leu Pro Gln Asp  
 260 265 270  
 Ser Phe Asp Tyr Gln Asn Arg Phe Arg Tyr Gln Tyr Asp Asn Leu Gln  
 275 280 285

70

Phe Asn His Phe Ser Ile Gln Lys Leu Asp Gln Thr Ile Gln Ala Arg  
 290 295 300  
 Lys Gln His Asp Arg Val Phe Ala Gly Phe Ile Leu His Asn Ile Gly  
 305 310 315 320  
 Thr Ser Ala Val Val Asp Ile Tyr Ile Cys Val Glu Gln Gly Gly Glu  
 325 330 335  
 Gln Asn Cys Lys Thr Lys Ala Gly Ser Phe Thr Ile Leu Gly Gly Glu  
 340 345 350  
 Thr Glu Met Pro Phe His Phe Asp Arg Leu Tyr Lys Phe Asp Ile Thr  
 355 360 365  
 Ser Ala Leu His Lys Leu Gly Val Pro Leu Asp Gly His Gly Phe Asp  
 370 375 380  
 Ile Lys Val Asp Val Arg Ala Val Asn Gly Ser His Leu Asp Gln His  
 385 390 395 400  
 Ile Leu Asn Glu Pro Ser Leu Leu Phe Val Pro Gly Glu Arg Lys Asn  
 405 410 415  
 Ile Tyr Tyr

&lt;210&gt; 77

&lt;211&gt; 413

&lt;212&gt; PRT

&lt;213&gt; Megathura crenulata

&lt;400&gt; 77

Asp Gly Leu Ser Gln His Asn Leu Val Arg Lys Glu Val Ser Ser Leu  
 1 5 10 15  
 Thr Thr Leu Glu Lys His Phe Leu Arg Lys Ala Leu Lys Asn Met Gln  
 20 25 30  
 Ala Asp Asp Ser Pro Asp Gly Tyr Gln Ala Ile Ala Ser Phe His Ala  
 35 40 45  
 Leu Pro Pro Leu Cys Pro Ser Pro Ser Ala Ala His Arg His Ala Cys  
 50 55 60  
 Cys Leu His Gly Met Ala Thr Phe Pro Gln Trp His Arg Leu Tyr Thr  
 65 70 75 80  
 Val Gln Phe Glu Asp Ser Leu Lys Arg His Gly Ser Ile Val Gly Leu  
 85 90 95  
 Pro Tyr Trp Asp Trp Leu Lys Pro Gln Ser Ala Leu Pro Asp Leu Val  
 100 105 110  
 Thr Gln Glu Thr Tyr Glu His Leu Phe Ser His Lys Thr Phe Pro Asn  
 115 120 125

ERSATZBLATT (REGEL 26)

Pro Phe Leu Lys Ala Asn Ile Glu Phe Glu Gly Glu Gly Val Thr Thr  
 130 135 140  
 Glu Arg Asp Val Asp Ala Glu His Leu Phe Ala Lys Gly Asn Leu Val  
 145 150 155 160  
 Tyr Asn Asn Trp Phe Cys Asn Gln Ala Leu Tyr Ala Leu Glu Gln Glu  
 165 170 175  
 Asn Tyr Cys Asp Phe Glu Ile Gln Phe Glu Ile Leu His Asn Gly Ile  
 180 185 190  
 His Ser Trp Val Gly Gly Ser Lys Thr His Ser Ile Gly His Leu His  
 195 200 205  
 Tyr Ala Ser Tyr Asp Pro Leu Phe Tyr Ile His His Ser Gln Thr Asp  
 210 215 220  
 Arg Ile Trp Ala Ile Trp Gln Ala Leu Gln Glu His Arg Gly Leu Ser  
 225 230 235 240  
 Gly Lys Glu Ala His Cys Ala Leu Glu Gln Met Lys Asp Pro Leu Lys  
 245 250 255  
 Pro Phe Ser Phe Gly Ser Pro Tyr Asn Leu Asn Lys Arg Thr Gln Glu  
 260 265 270  
 Phe Ser Lys Pro Glu Asp Thr Phe Asp Tyr His Arg Phe Gly Tyr Glu  
 275 280 285  
 Tyr Asp Ser Leu Glu Phe Val Gly Met Ser Val Ser Ser Leu His Asn  
 290 295 300  
 Tyr Ile Lys Gln Gln Gln Glu Ala Asp Arg Val Phe Ala Gly Phe Leu  
 305 310 315 320  
 Leu Lys Gly Phe Gly Gln Ser Ala Ser Val Ser Phe Asp Ile Cys Arg  
 325 330 335  
 Pro Asp Gln Ser Cys Gln Glu Ala Gly Tyr Phe Ser Val Leu Gly Gly  
 340 345 350  
 Ser Ser Glu Met Pro Trp Gln Phe Asp Arg Leu Tyr Lys Tyr Asp Ile  
 355 360 365  
 Thr Lys Thr Leu Lys Asp Met Lys Leu Arg Tyr Asp Asp Thr Phe Thr  
 370 375 380  
 Ile Lys Val His Ile Lys Asp Ile Ala Gly Ala Glu Leu Asp Ser Asp  
 385 390 395 400  
 Leu Ile Pro Thr Pro Ser Val Leu Leu Glu Gly Lys  
 405 410

72

&lt;210&gt; 78

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; Megathura crenulata

&lt;400&gt; 78

His Gly Ile Asn Val Arg His Val Gly Arg Asn Arg Ile Arg Met Glu  
 1 5 10 15  
 Leu Ser Glu Leu Thr Glu Arg Asp Leu Ala Ser Leu Lys Ser Ala Met  
 20 25 30  
 Arg Ser Leu Gln Ala Asp Asp Gly Val Asn Gly Tyr Gln Ala Ile Ala  
 35 40 45  
 Ser Phe His Gly Leu Pro Ala Ser Cys His Asp Asp Glu Gly His Glu  
 50 55 60  
 Ile Ala Cys Cys Ile His Gly Met Pro Val Phe Pro His Trp His Arg  
 65 70 75 80  
 Leu Tyr Thr Leu Gln Met Asp Met Ala Leu Leu Ser His Gly Ser Ala  
 85 90 95  
 Val Ala Ile Pro Tyr Trp Asp Trp Thr Lys Pro Ile Ser Lys Leu Pro  
 100 105 110  
 Asp Leu Phe Thr Ser Pro Glu Tyr Tyr Asp Pro Trp Arg Asp Ala Val  
 115 120 125  
 Val Asn Asn Pro Phe Ala Lys Gly Tyr Ile Lys Ser Glu Asp Ala Tyr  
 130 135 140  
 Thr Val Arg Asp Pro Gln Asp Ile Leu Tyr His Leu Gln Asp Glu Thr  
 145 150 155 160  
 Gly Thr Ser Val Leu Leu Asp Gln Thr Leu Leu Ala Leu Glu Gln Thr  
 165 170 175  
 Asp Phe Cys Asp Phe Glu Val Gln Phe Glu Val Val His Asn Ala Ile  
 180 185 190  
 His Tyr Leu Val Gly Gly Arg Gln Val Tyr Ala Leu Ser Ser Gln His  
 195 200 205  
 Tyr Ala Ser Tyr Asp Pro Ala Phe Phe Ile His His Ser Phe Val Asp  
 210 215 220  
 Lys Ile Trp Ala Val Trp Gln Ala Leu Gln Lys Lys Arg Lys Arg Pro  
 225 230 235 240  
 Tyr His Lys Ala Asp Cys Ala Leu Asn Met Met Thr Lys Pro Met Arg  
 245 250 255  
 Pro Phe Ala His Asp Phe Asn His Asn Gly Phe Thr Lys Met His Ala  
 260 265 270



73

Val Pro Asn Thr Leu Phe Asp Phe Gln Asp Leu Phe Tyr Thr Tyr Asp  
 275 280 285

Asn Leu Glu Ile Ala Gly Met Asn Val Asn Gln Leu Glu Ala Glu Ile  
 290 295 300

Asn Arg Arg Lys Ser Gln Thr Arg Val Phe Ala Gly Phe Leu Leu His  
 305 310 315 320

Gly Ile Gly Arg Ser Ala Asp Val Arg Phe Trp Ile Cys Lys Thr Ala  
 325 330 335

Asp Asp Cys His Ala Ser Gly Met Ile Phe Ile Leu Gly Gly Ser Lys  
 340 345 350

Glu Met His Trp Ala Tyr Asp Arg Asn Phe Lys Tyr Asp Ile Thr Gln  
 355 360 365

Ala Leu Lys Ala Gln Ser Ile His Pro Glu Asp Val Phe Asp Thr Asp  
 370 375 380

Ala Pro Phe Phe Ile Lys Val Glu Val His Gly Val Asn Lys Thr Ala  
 385 390 395 400

Leu Pro Ser Ser Ala Ile Pro Ala Pro Thr Ile Ile Tyr Ser Ala Gly  
 405 410 415

Glu

<210> 79  
 <211> 395  
 <212> PRT  
 <213> Megathura crenulata

<400> 79

Asp His Ile Ala Gly Ser Gly Val Arg Lys Asp Val Thr Ser Leu Thr  
 1 5 10 15

Ala Ser Glu Ile Glu Asn Leu Arg His Ala Leu Gln Ser Val Met Asp  
 20 25 30

Asp Asp Gly Pro Asn Gly Phe Gln Ala Ile Ala Ala Tyr His Gly Ser  
 35 40 45

Pro Pro Met Cys His Met Xaa Asp Gly Arg Asp Val Ala Cys Cys Thr  
 50 55 60

His Gly Met Ala Ser Phe Pro His Trp His Arg Leu Phe Val Lys Gln  
 65 70 75 80

Met Glu Asp Ala Leu Ala Ala His Gly Ala His Ile Gly Ile Pro Tyr  
 85 90 95

Trp Asp Trp Thr Ser Ala Phe Ser His Leu Pro Ala Leu Val Thr Asp  
 100 105 110

74

His Glu His Asn Pro Phe His His Gly His Ile Ala His Arg Asn Val  
 115 120 125  
 Asp Thr Ser Arg Ser Pro Arg Asp Met Leu Phe Asn Asp Pro Glu His  
 130 135 140  
 Gly Ser Glu Ser Phe Phe Tyr Arg Gln Val Leu Leu Ala Leu Glu Gln  
 145 150 155 160  
 Thr Asp Phe Cys Gln Phe Glu Val Gln Phe Glu Ile Thr His Asn Ala  
 165 170 175  
 Ile His Ser Trp Thr Gly Gly His Thr Pro Tyr Gly Met Ser Ser Leu  
 180 185 190  
 Glu Tyr Thr Ala Tyr Asp Pro Leu Phe Tyr Leu His His Ser Asn Thr  
 195 200 205  
 Asp Arg Ile Trp Ala Ile Trp Gln Ala Leu Gln Lys Tyr Arg Gly Phe  
 210 215 220  
 Gln Tyr Asn Ala Ala His Cys Asp Ile Gln Val Leu Lys Gln Pro Leu  
 225 230 235 240  
 Lys Pro Phe Ser Glu Ser Arg Asn Pro Asn Pro Val Thr Arg Ala Asn  
 245 250 255  
 Ser Arg Ala Val Asp Ser Phe Asp Tyr Glu Arg Leu Asn Tyr Gln Tyr  
 260 265 270  
 Asp Thr Leu Thr Phe His Gly His Ser Ile Ser Glu Leu Asp Ala Met  
 275 280 285  
 Leu Gln Glu Arg Lys Lys Glu Glu Arg Thr Phe Ala Ala Phe Leu Leu  
 290 295 300  
 His Gly Phe Gly Ala Ser Ala Asp Val Ser Phe Asp Val Cys Thr Pro  
 305 310 315 320  
 Asp Gly His Cys Ala Phe Ala Gly Thr Phe Ala Val Leu Gly Gly Glu  
 325 330 335  
 Leu Glu Met Pro Trp Ser Phe Glu Arg Leu Phe Arg Tyr Asp Ile Thr  
 340 345 350  
 Lys Val Leu Lys Gln Met Asn Leu His Tyr Asp Ser Glu Phe His Phe  
 355 360 365  
 Glu Leu Lys Ile Val Gly Thr Asp Gly Thr Glu Leu Pro Ser Asp Arg  
 370 375 380  
 Ile Lys Ser Pro Thr Ile Glu His His Gly Gly  
 385 390 395

<210> 80  
 <211> 1266  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 80  
 cttgttcagtt ttctactcgt cgccttctgt gtgggggctg gagcagacaa cgtcgtcaga 60  
 aaggacgtga gtcacctcac ggatgacgag gtgcaagctc tccacggcgc cctccatgac 120  
 gtcactgcat ctacagggcc tctgagtttc gaagacataa catcttacca tgccgcacca 180  
 gcgctcgtgtg actacaaggg acggaagatc gcctgctgtg tccacggtat gccagtttc 240  
 cccttctggc acagggcata tgctgtccaa gccgagcggg cactgttgctc caaacggaag 300  
 actgtcggaa tgccttactg ggactggacg caaacgctga ctcaattacc atctcttggtg 360  
 actgaaccca tctacattga cagtaaaggt ggaaaggctc aaaccaacta ctgggtaccgc 420  
 ggcgagatag cgttcatcaa taagaagact gcgcgagctg tagatgatcg cctattcgag 480  
 aagggtggagc ctgggtcacta cacacatctt atgggagactg tcctcgacgc tctcgaacag 540  
 gacgaattct gtaaatttga aatccagttc gagttggctc ataattgctat ccattacttg 600  
 gttggcggta aatttgaata ttcaatgtca aacttggaa acacctccta cgaccccatc 660  
 ttcttctctc accactccaa cgttgaccgc ctcttcgcca tctggcagcg tcttcaggaa 720  
 ctgagaggaa agaattccaa tgcaatggac tgtgcacatg aactcgctca ccagcaactc 780  
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 ggtcaaagcg aatgcccgtg gagattctac agacccttct tctatgatgt aactgaagcg 1140  
 gtacatcacc ttggagtccc gctaagtggc cactactatg tgaaaacaga actcttcagc 1200  
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 gggaaa 1266

<210> 81  
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 <212> DNA  
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<400> 81  
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 cctcactggc accggctggt cgttaccacg gtggaagatg ctcttgtagc gcgtggatcg 300  
 cctatcggtg ttctttattg ggactggaca aaacctatga ctacacctcc agacttggca 360  
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 aatatatctt ttgaggaggg acaccatcac acgagcagga tgatagattc gaaactgttt 480  
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 aagccatttg ctttcccatc acctcttaac aacaacgaga agacacatag tcattcagtc 840  
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<210> 82  
 <211> 1242  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 82  
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 tatgatcacc tcttcattcg ctacgaagtc tttgatctta aaggagttag tttgggaact 1200  
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<210> 83  
 <211> 1239  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 83  
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 caggacgacg gaacatatga atctattgcc cagtaccatg gcaaaccagg caaatgtcaa 180  
 ttgaatgacg ataattattg gtgtgtgtgc catggatgac ctaccttccc ccagtggcac 240  
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 tacttcaatt cccgacaaca gcggtacgac cctaaccctt tcttcagggg aaaggttact 420  
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 ggtggagttt tcgaactgga gcttgagatc aaggcataca acggttccta tctggatccc 1200  
 catacctttg atccaactat catctttgaa cctggaaca 1239

<210> 84  
 <211> 1260  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 84  
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 aatccatctg cagctcaccg ttatgcttgc tgtgtccatg gcatggctac atttccccag 240  
 tggcacagac tgtacactgt tcagggttcag gatgccctga ggagacatgg ttcacttgtt 300  
 ggtattcctt actgggactg gacaaaacca gtcaacgagt taccgagct tctttcttca 360  
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 cacagtgggg atcatgacgg ataccacaac tggttcttcg aaactgttct ctttgctttg 540  
 gaacaggaag attactgcga ttttgaaata caatttgaga tagcccataa tggcatccac 600  
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 ccaattttct acatccacca ttcacagacg gacagaatat gggctatttg gcaagagctg 720  
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 gacatgaacc tgaggcacga ggacactttc tctatagacy taactatcac gtcttacaat 1200  
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<210> 85  
 <211> 1251  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 85  
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 agttcccgtg acatagcaag cttgaaggca gctttgacaa gccttcaaca tgataatggg 120  
 actgatgggt atcaagctat tgctgccttc catggcgctt ctgcgcagtg ccacgagcca 180  
 tctggacgtg agatcgctg ttgcatccac ggcatggcga cgtttctca ctggcaccgg 240  
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 tatgacgttt ggcaaaatgc cgtcttgccc aatccgtttg caagaggtta tgtgaaaatt 420  
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<210> 86  
 <211> 1209  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 86  
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 cccatgcctg atggccacaa ctactcatgt tgtactcacg gcatggctac cttcccacac 240  
 tggcatcgcc tctacaccaa gcagatggag gatgcaatga gggcgcatgg gtctcatgtc 300  
 ggcctggcct actgggactg gactgctgcc ttcacccacc tgccaacact ggtcaccgac 360  
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 gaaccggggc 1209

<210> 87  
 <211> 1536  
 <212> DNA  
 <213> *Haliotis tuberculata*

<400> 87  
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 atcaggaaaag aagttgactt cctctccctg caagaggcca acgcaattaa ggatgcactg 120  
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 catggctctc caatgggcat tccctactgg gattggacaa agaagatgtc gagtcttcca 360  
 tctttctttg gagattccag caacaacaac cctttctaca aatattacat ccggggcggtg 420  
 cagcacgaaa caaccaggga cattaatcag agactcttta atcaaaccac gtttggtgaa 480  
 tttgattacc tatattacct aactctgcaa gtccctggagg aaaactcgta ctgtgacttt 540  
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79

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 aacctcaggc tccacatcca cgtggaacac gagtag 1536

&lt;210&gt; 88

&lt;211&gt; 591

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 88

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 cccttggttg tcgaccggga aggaggaaag gcccatgaca acgcatggta tcgtggaaac 120  
 atcaagtttg agaataagaa gactgcaaga gctgttgacg atcgctttt cgagaaggtt 180  
 ggaccaggag agaatacccg actctttgaa ggaattctcg atgctcttga acaggatgaa 240  
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 ttccgtcggc atgagcccat ggaaccgttc cgtcgggact cgaaccctct tgacctcacc 540  
 agggaaaact ccaaaccaat tgacagcttt gattatgcc c 591

&lt;210&gt; 89

&lt;211&gt; 1245

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 89

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&lt;210&gt; 90

&lt;211&gt; 1251

&lt;212&gt; DNA

<213> *Haliotis assimilis*

&lt;400&gt; 90

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80

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gctgagaaga agttctcctg ctgtgtccat ggaatggctg tcttccctca ctggcacaga 240
ctcctgaccg tgcaaggcga gaatgcctg agaaagcatg gatgtctcgg agctctcccc 300
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&lt;210&gt; 91

&lt;211&gt; 1242

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 91

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ggtcaccatc aggtgacga gtacgacgaa gttgtaactg ctgcaagcca catcagaaag 60
aatttaaaag atctgtcaaa gggagaagta gagagcctaa ggtctgcctt cctgcaactt 120
cagaacgacg gagtctatga gaatattgcc aagtccacg gcaagcctgg gttgtgtgat 180
gataacggtc gcaagggtgc ctgttgtgtc catggaatgc ccaccttccc ccagtggcac 240
aggctctatg tcctccaggt ggagaatgct ttgctggaga gaggatctgc cgtctctgtg 300
ccatactggg actggactga aacatttaca gagctgccat ctttgattgc tgaggctacc 360
tatttcaatt ccggtcaaca aacgtttgac cctaactcctt tcttcagagg taaaatcagt 420
tttgagaatg ctgttacaac acgtgatccc cagcctgagc tgtacgttaa caggtactac 480
taccaaaacg tcatgttggg ttttgaacag gacaactact gcgacttcca gatacagttt 540
gagatgggtc acaatgttct ccatgcttgg cttggtggaa gagctactta ttctatttct 600
tctcttgatt attctgcatt cgacctgtg ttttccctt accatgcgaa cacagataga 660
ttgtgggcca tctggcagga gctgcagagg tacaggaaga agccatacaa tgaagcggat 720
tgtgccatta acctaattgc caaacctcta cacccttccg acaacagtga tctcaatcat 780
gatcctgtaa ctttaataa ctcaaaaccc actgatggct ttgactacca gaacaacttt 840
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attcgtatta gacaacgtca agatcgtgtg ttgacaggat tcctccttca caacattggg 960
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gaaaacaaag ccggaacatt tgccgtactc ggaggagaaa cagagatggc gtttcatttt 1080
gacagactct acaggtttga catcagtga aactgaggg acctcgcat acagctggac 1140
agccatgact ttgacctcag catcaagatt caaggagtaa atggatccta ccttgatcca 1200
cacatcctgc cagagccatc cttgattttt gtgcctggtt ca 1242

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&lt;210&gt; 92

&lt;211&gt; 1257

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 92

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agttctttcc tgctcctga tgggcattca gatgacatcc ttgtgagaaa agaagtgaac 60
agcctgacaa ccaggagac tgcatctctg atccatgctc tgaaaagtat gcaggaagac 120
cattcacctg acgggttcca agccattgcc tctttccatg ctctgccacc actctgcct 180

```



81

```

tcaccatctg cagctcaccg ttatgcttgc tgtgtccacg gcatggctac atttcccag 240
tggcacagat tgtacactgt acagttccag gatgcactga ggagacatgg agctacggta 300
ggtgtaccgt attgggattg gctgcgaccg cagtctcacc taccagagct tgtcaccatg 360
gagacatacc atgatatttg gagtaacaga gatttcccca atcctttcta ccaagccaat 420
attgagtttg aaggagaaaa cattacaaca gagagagaag tcattgcaga caaacttttt 480
gtcaaagggt gacacgtttt tgataaactg gttcttcaaa caagccatcc tagcgctgag 540
caggaaaact actgtgactt tgagattcag tttgaaattc ttcacaacgg cgttcacacg 600
tgggtcggag gcagtcgtac ctactctatc ggacatcttc attacgcatt ctacgacct 660
cttttctacc ttcaccattt ccagacagac cgtatttggg caatctggca agaactccag 720
gaacagagag ggctctcggg tgatgaggct cactgtgctc tcgagcaaat gagagaacca 780
ttgaagcctt tcagcttcgg cgctccttat aactggaatc agctcacaca ggatttctcc 840
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gtattcgctg ggttctctgtt gagtggattc ggaggttccg catcagttaa tttccagggt 1020
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gagatggcgt gggcatttga caggctttac aaatatgaca ttactgaaac tctggagaaa 1140
atgcaccttc gatatgatga tgacttcaca atctctgtca gtctgaccgc caacaacgga 1200
actgtcctga gcagcagctt aatcccaaca ccgagtgtca tattccagcg gggacat 1257

```

&lt;210&gt; 93

&lt;211&gt; 1248

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 93

```

cgtgacataa ataccaggag catgtcaccg aaccgtgttc gccgtgagct gagcgatctg 60
tctgcgaggg acctgtctag tctcaagtct gctctgcgag acctacagga ggatgatggc 120
cccaacggat accaggctct tgcaaccttc catgggctac cagcaggctg ccatgatagc 180
cggggaaatg agatcgcatg ttgcattcac gggatgccga ccttcccca gtggcacaga 240
ctgtacaccc tgcagttgga gatggctctg aggagacatg gatcatctgt cgccatcccc 300
tactgggact ggacaaagcc tatctccgaa ctccctcgc tcttcaccag ccctgagtat 360
tatgacccat ggcagatgac tgtggtaaac aaccattct ccaaagggtt tgtcaaattt 420
gcaaatacct acacagtaag agaccacag gagatgctgt tccagctttg tgaacatgga 480
gagtcfaatcc tctatgagca aactcttctt gctcttgagc aaaccgacta ctgtgatatt 540
gaggtagagt ttgaggtcct ccataacgtg atccactacc ttgttgggtg acgtcagacc 600
tacgcattgt cttctctgca ttatgcctcc tacgacccat tcttctttat acaccattcc 660
tttgtggata agatgtgggt agtatggcaa gctcttcaaa agaggaggaa acttccatac 720
aagcgagctg actgtgctgt caacctaatg actaaaccaa tgaggccatt tgactccgat 780
atgaatcaga acccattcac aaagatgcac gcagttccca acacactcta tgactacgag 840
acactgtact acagctacga taatctcgaa ataggtggca ggaatctoga ccagcttcag 900
gctgaaattg acagaagcag aagccacgat cgcgtttttg ctggattctt gcttctgtga 960
atcggaactt ctgctgatgt caggtttttg atttgtagaa atgaaaatga ctgccacagg 1020
gggtggaataa ttttcatctt aggtggagcc aaggaaatgc catggtcatt tgacagaaac 1080
ttcaagtttg atatcaccga tgtactcgag aatgctggca ttagccaga ggacgtgttt 1140
gatgctgagg agccatttta tatcaagggt gagatccatg ctgttaacaa gaccatgata 1200
ccgtcgtctg tgatcccagc ccaactatc atctattctc ctggggaa 1248

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&lt;210&gt; 94

&lt;211&gt; 1206

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 94

```

ggtcgcgctg ctgacagtgc gcactctgcc aacattgctg gctctggggt gaggaaggac 60
gtcacgaccc tcaactgtgtc tgagaccgag aacctaaagc aggtcttca aggtgtcatc 120
gatgatactg gtcccaatgg ttaccaagca atagcatcct tccacggaag tcctccaatg 180
tgcgagatga acggccgcaa ggttgccgtg tgtgctcacg gtatggcctc cttccacac 240

```

82

tggcacagac tgtatgtgaa gcagatggaa gatgccctgg ctgaccacgg gtcacatatc 300  
 ggcatccctt actgggactg gacaactgcc ttacacagagt taccgcccct tgtcacagac 360  
 tccgagaaca atcccttcca tgagggtcgc attgatcatc tcggtgtaac cacgtcacgt 420  
 tccccagag acatgctgtt taacgaccca gagcaaggat cagagtcgtt cttctataga 480  
 caagtcctcc tggctttgga gcagactgac tactgccagt tcgaagtcca gtttgagctg 540  
 acccacaacg ccattcactc ctggacaggt ggacgtagcc cttacggaat gtcgaccctc 600  
 gagttcacag cctacgatcc tctcttctgg cttaccact ccaacaccga cagaatctgg 660  
 gctgtctggc aagcactgca gaaataccga ggactcccat acaacgaagc acactgtgaa 720  
 atccagggtt tgaacagcc cttgaggcca ttcaacgatg acatcaacca caatccaatc 780  
 accaagacta atgccaggcc tatcgattca tttgattatg agaggtttaa ctatcagtat 840  
 gacaccctta gcttccatgg taagagcatc cctgaactga atgacctgct cgaggaaaaga 900  
 aaaagagaag agagaacatt tgctgccttc cttcttcgtg gaatcggttg cagtgtgat 960  
 gtcgtctttg acatctgccg gcccaatggt gactgtgtct ttgcaggaac ctttgcgtgtg 1020  
 ctgggagggg agctagaaat gccttggtcc ttgcacagac tgttccgcta tgacatcacc 1080  
 agagtcatga atcagctcca tctccagtat gattcagatt tcagtttcag ggtgaagctt 1140  
 gttgccacca atggcactga gctttcatca gaccttctca agtcaccaac aattgaacat 1200  
 gaactt 1206

&lt;210&gt; 95

&lt;211&gt; 1548

&lt;212&gt; DNA

<213> *Haliotis tuberculata*

&lt;400&gt; 95

ggagcccaca gaggaccagt tgaagaaaca gaagtcactc gccaacatac tgacggcaat 60  
 gcacactttc atcgtaagga agttgattcg ctgtccctgg atgaagcaaa caacttgaag 120  
 aatgcccttt acaagctaca gaacgaccac agtctaacgg gatacgaagc aatctctggg 180  
 taccatggat accccaatct gtgtccggaa gaaggcgatg acaaaaatacc cctgctcggt 240  
 ccccggtatg gcacttttcc ttactggcac agactcttga ccattcaact ggaaagagct 300  
 cttgagcaca atggtgcaat gcttgggtgt cttactggg actggaacaa ggacctgtcg 360  
 tcaactgccg cgcttcttct cgactccagc aacaacaatc cctacttcaa gtaccacatc 420  
 gccggtgttg gtcacgacac cgtagagag ccaactagtc ttatatataa ccagcccaa 480  
 atccatggtt atgattatct ctattaccta gcattgacca cgcttgaaga aaacaattac 540  
 tgggactttg aggttcagta tgagatcctc cacaacgccc tccactcctg gcttgaggga 600  
 tccagaagat attccatgtc taccctggag tattcgccct ttgacctgt ctttatgatc 660  
 cttactcgg gtctagacag actttggatc atctggcaag aacttcagaa gatcaggaga 720  
 aagccctaca acttcgctaa atgtgcttat catatgatgg aagagccact ggcgcccttc 780  
 agctatccat ctatcaacca ggacgagttc acccgtgcc aactccaagc ttctacagtt 840  
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 caagaactca acacaatcat caatgacttg agaaacacag acagaatcta cgcaggattt 960  
 gttttgtcag gcacggttac gtctgctagt gtcaagatct atctccgaac agatgacaat 1020  
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 gagcgagttt tcaagtatga catcacagag gttgcagata gacttaaaat taagttatgg 1140  
 ggacaccctt taacttcogg aactggagat cacatcctta cgaatggaat cgggtgtaaa 1200  
 caagagccta cccaaatcct ttcatcatct acagacctgc caatcatgac tacgatgttc 1260  
 ttgttatccc agtanggaag aaaccttcac atccctccca aagttgtcgt caagaaaggc 1320  
 acccgcatcg agttccacc agtcgatgat tcagttacga gaccagttgt tgatcttggg 1380  
 agctacactg cactcttcaa ctgtgtggtt ccaccgttca cataccacgg attcgaactg 1440  
 aaccacgtct attctgtcaa gcctggtgac tactatgtta ctggaccac gagagacctt 1500  
 tgccagaatg cagatgtcag gattcatatc catgttgagg atgagtaa 1548

&lt;210&gt; 96

&lt;211&gt; 966

&lt;212&gt; DNA

<213> *Megathura crenulata*

&lt;400&gt; 96

83

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ggcctaccgt actgggactg gactgaaccc atgacacaca ttccgggtct ggcaggaaac 60
aaaacttatg tggattctca tgggtgcatcc cacacaaatc cttttcatag ttcagtgatt 120
gcatttgaag aaaatgctcc ccacacccaaa agacaaatag atcaaagact ctttaaacc 180
gctacctttg gacaccacac agacctgttc aaccagattt tgtatgcctt tgaacaagaa 240
gattactgtg actttgaagt ccaatttgag attaccata acacgattca cgcttggaca 300
ggaggaagcg aacatttctc aatgtcgctc ctacattaca cagctttoga tcctttgttt 360
tactttcacc attctaacgt tgatcgctct tgggccgttt ggcaagcctt acagatgaga 420
cggcataaac cctacagggc ccactgcgcc atatctctgg aacatatgca tctgaaacca 480
ttcgcccttt catctcccct taacaataac gaaaagactc atgccaatgc catgccaaac 540
aagatctacg actatgaaaa tgcctcccat tacacatacg aagatttaac atttggaggc 600
atctctctgg aaaacataga aaagatgata cacgaaaacc agcaagaaga cagaatatat 660
gccggttttc tcctggctgg catagctact tcagcaaagc ttgatattct cattaataat 720
accgattccg tgcaacataa ggctggaaca ttgacgtgac tcggtggaag caaggaaatg 780
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ctcactgctg atggcgattt cgaagttact gttgacatca ctgaagtcga tggaaactaa 900
cttgcaccca gtcttattcc acatgcttct gtcattcgtg agcatgcacg tggtaagctg 960
aataga

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&lt;210&gt; 97

&lt;211&gt; 1242

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 97

```

gttaaatttg acaaagtgcc aaggagtcgt cttattcgaa aaaatgtaga ccgtttgagc 60
cccaggagga tgaatgaact tcgtaaaagcc cttagccttac tgaaagagga caaaagtgcc 120
gggtgatttc agcagcttgg tgcattccat ggggagccaa aatgggtgtc tagtcccga 180
gcatctaaaa aatttgcttg ctgtgttcac ggcatgtctg tgttccctca ctggcatcga 240
ctgttgacgg tttagagtga aaatgctttg agacgacatg gctacgatgg agctttgccg 300
tactgggatt ggacctctcc tcttaatcac cttcccgaac tggcagatca tgagaaagtac 360
gtcgaccctg aagatggggt agagaagcat aacccttggc tcgatgggtca tatagataca 420
gtcgacaaaa caacaacaag aagtgttcag aataaactct tcgaacagcc tgagtttggt 480
cattatacaa gcattgcaa acaagtactg cttagcgttg aacaggacaa tttctgtgac 540
tttgaaatcc aatatgagat tgcccataac tacatccatg cacttgtagg aggcgctcag 600
ccttatggta tggcatcgct tcgctacact gcttttgatc cactattcta cttgcatcac 660
tctaatacag atcgatatg ggcaatatg caggctttac agaagtacag aggaaaaccg 720
tacaacgttg ctaactgtgc tgttacatcg atgagagaac ctttgcaacc atttggcctc 780
tctgccaata tcaacacaga ccatgtaacc aaggagcatt cagtgccatt caacgttttt 840
gattacaaga ccaatttcaa ttatgaatat gacactttgg aatttaacgg tctctcaatc 900
tctcagttga ataaaaagct cgaagcgata aagagccaag acaggttctt tgcaggcttc 960
ctgttatctg gtttcaagaa atcatctctt gttaaattca atatttgac cgatagcagc 1020
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tacgatagag tcttcaata tgacataacc gaaaaactcc acgatctaaa gctgcatgca 1140
gaagaccact tctacattga ctatgaagta tttgacctta aaccagcaag cctgggaaaa 1200
gatttgttca agcagccttc agtcattcat gaaccaagaa ta 1242

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&lt;210&gt; 98

&lt;211&gt; 1236

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 98

```

ggtcaccatg aaggcgaagt atatcaagct gaagtaactt ctgccaaccg tattcgaaaa 60
aacattgaaa atctgagcct tgggtgaactc gaaagtctga gagctgcctt cctggaaatt 120
gaaaacgatg gaacttacga atcaatagct aaattccatg gtagccctgg tttgtgccag 180
ttaaatggta accccatctc ttgttgtgtc catggcatgc caactttccc tactggcac 240
agactgtacg tggttgtcgt tgagaatgcc ctcctgaaaa aaggatcatc tgtagctgtt 300

```

84

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ccctattggg actggacaaa acgaatcgaa catttacctc acctgatttc agacgccact 360
tactacaatt ccaggcaaca tcactatgag acaaaccat tccatcatgg caaaatcaca 420
cacgagaatg aaatcactac tagggatccc aaggacagcc tcttccattc agactacttt 480
tacgagcagg tccttttacgc cttggagcag gataacttct gtgatttcga gattcagttg 540
gagatattac acaatgcatt gcattcttta cttgggtggca aaggtaaata ttccatgtca 600
aaccttgatt acgctgcttt tgatcctgtg ttcttccttc atcacgcaac gactgacaga 660
atctgggcaa tctggcaaga ccttcagagg ttccgaaaac ggccataccg agaagcgaat 720
tgcgctatcc aattgatgca cacgccactc cagccgtttg ataagagcga caacaatgac 780
gaggcaacga aaacgcattg cactccacat gatgggtttg aatatcaaaa cagcttttgt 840
tatgcttacg ataactctga actgaatcac tactcgattc ctcagcttga tcacatgctg 900
caagaaagaa aaaggcatga cagagtattc gctggcttcc tccttcacaa tattggaaca 960
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agactttaca aacttgacat aactaaagcc ttgaaaaaga acggtgtgca cctgcaagg 1140
gatttcgatc tggaaattga gattacggct gtgaatggat ctcatctaga cagtcatgtc 1200
atccactctc ccactatact gtttgaggcc ggaaca 1236

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&lt;210&gt; 99

&lt;211&gt; 1257

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 99

```

gattctgccc acacagatga tggacacact gaaccagtga tgattcgcaa agatatcaca 60
caattggaca agcgtcaaca actgtcactg gtgaaagccc tcgagtccat gaaagccgac 120
cattcatctg atgggttcca ggcaatcgct tccttccatg ctcttcctcc tctttgtcca 180
tcaccagctg cttcaaagag gtttgcgctg tgcgtccatg gcatggcaac gttcccacaa 240
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tcaactattc atgacccgga gacaggcaga gatataccaa atccatttat tggttctaaa 420
atagagtttg aaggagaaaa cgtacatact aaaagagata tcaataggga tcgtctcttc 480
cagggatcaa caaaaacaca tcataactgg tttattgagc aagcactgct tgctcttgaa 540
caaaccaact actgcgactt cgagggttcag tttgaaatta tgcataatgg tgttcatacc 600
tgggttggag gcaaggagcc ctatggaatt ggccatctgc attatgcttc ctatgatcca 660
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cgtttcagag gactttctgg atctgaggct aactgtgctg taaatctcat gaaaactcct 780
ctgaagcctt tcagctttgg agcaccatat aatcttaatg atcacacgca tgatttctca 840
aagcctgaag atacattcga ctaccaaag tttggataca tatatgacac tctggaattt 900
gcaggggtgg caattcgtgg cattgaccat attgtccgta acaggcagga acattcaagg 960
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gaaatgcctt gggcctttga tcggctttac aagtagcaga taacagaaac cttagacaag 1140
atgaaccttc gacatgacga aatcttccag attgaagtaa ccattacatc ctacgatgga 1200
actgtactcg atagtggcct tattcccaca ccgtcaatca tctatgatcc tgctcat 1257

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&lt;210&gt; 100

&lt;211&gt; 1254

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 100

```

catgatatta gttcgcacca cctgtcgctc aacaaggttc gtcatgatct gactacactg 60
agtgaagcag atattggaag ccttaaatat gctttgagca gcttgcaggc agatacctca 120
gcagatgggt ttgctgccat tgcattcttc catggtctgc ctgccaatg taatgacagc 180
cacataacg aggtggcatg ctgtatccat ggaatgccta cattcccca ctggcacaga 240
ctctacaccc tccaatttga gcaagctcta agaagacatg gctctagtgt agcagtaccc 300
tactgggact ggacaaagcc aatacataat attccacatc tggtcacaga caaagaatac 360

```

85

```

tacgatgtct ggagaaataa agtaatgcca aatccatttg cccgagggta tgtcccctca 420
cacgatacat acacggtaag agacgtccaa gaaggcctgt tccacctgac atcaacgggt 480
gaacactcag cgcttctgaa tcaagctctt ttggcgctgg aacagcacga ctactgcgat 540
tttgagtcac agtttgaagt catgcacaac acaatccatt acctagtggg aggacctcaa 600
gtctattctt tgtcatccct tcattatgct tcatatgatc cgatcttctt catacaccac 660
tcctttgttag acaagggttg ggctgtcttg caggctcttc aagaaaagag aggccttcca 720
tcagaccgtg ctgactgctg tgttagtctg atgactcaga acatgaggcc ttccattac 780
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ttattcaagt acgatattac ccatgctctt catgacgcac acatcactcc agaagacgta 1140
ttccatccct ctgaaccatt cttcatcaag gtgtcagtga cagccgtcaa cggaacagtt 1200
cttccggtct caatcctgca tgcaccaacc attatctatg aacctggtct cggt 1254

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&lt;210&gt; 101

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 101

```

gaccatcacg aagatcatca ttcttcttct atggctggac atggtgtcag aaaggaaatc 60
aacacactta ccaactgcaga ggtggacaat ctcaaagatg ccatgagagc cgtcatggca 120
gaccacggtc caaatggata ccaggctata gcagcgttcc atggaaaccc accaatgtgc 180
cctatgccag atggaaagaa ttactcgtgt tgtacacatg gcatggctac tttccccac 240
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&lt;210&gt; 102

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Megathura crenulata

&lt;400&gt; 102

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